* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] The information containing an alphabetic character, a graphic form, voice, etc. is changed into electronic data with an input device. The 2nd data which outputs the 1st data contained in said electronic data to the paper part of the paper containing IC chip which prepared IC chip [read-out / electronic data / ****** / record and read-out] in space, and is contained in said electronic data by IC reader writer It records on said IC chip of said paper containing IC chip. Said 2nd data The signal transduction approach using the paper containing IC chip characterized by reading from said IC chip by said IC reader writer, and outputting said 2nd read data with the output unit according to the class of data.
[Claim 2] Input document data and said inputted document data are changed into an image data. Said changed image data is printed into the paper part of the paper containing IC chip. Said inputted document data are changed into the electronic data of at least one class. Said changed electronic data is recorded on IC part of said paper containing IC chip. Said electronic data recorded on IC part of said paper containing IC chip is read. The signal transduction approach using the paper containing IC chip characterized by transforming said read electronic data into the electronic data of a predetermined format, outputting said changed electronic data to the output means according to the class of said electronic data, and processing said changed electronic data in a predetermined procedure.
[Claim 3] said paper containing IC chip is ******** about what stuck IC chip on some usual papers, and IC chip -- the signal transduction approach using what stuck IC chip on the same part as paper or the image printed by the paper part of said paper containing IC chip, and the paper containing IC chip according to claim 2 characterized by being in ********.
[Claim 4] The information which records on IC chip part of said paper containing IC chip is the signal-transduction approach using the paper containing IC chip according to claim 2 characterized by to be at least one of the same contents as the information printed to the paper part of said paper containing IC chip, the information on arbitration or the information printed by the paper part of said paper containing IC chip, and the relevant information **s.
[Claim 5] What recorded the information as the information printed by the paper part of said paper containing IC chip that the information recorded on IC chip part of said paper containing IC chip was the same, in a different format, Or the thing which recorded a part of information printed by the paper part of said paper containing IC chip, Or the signal transduction approach using the paper containing IC chip according to claim 2 characterized by the information printed by the paper part of said paper containing IC chip being at least one of the thing **s which recorded different information.
[Claim 6] The information recorded on IC chip part of said paper containing IC chip is the signal transduction approach using the paper containing IC chip according to claim 2 characterized by being at least one of a character code, voice data, Braille-points data, image data, or the data of a tabular format.
[Claim 7] The signal transduction approach using the paper containing IC chip according to claim 2 characterized by arranging and displaying the information which collected those by which information record was carried out into IC part of said paper containing IC chip, and read and read this information to it from IC part of each paper containing IC chip on a tabular format.

[Claim 8] The information recorded on IC chip part of said paper containing IC chip The information relevant to the information printed to the paper part of said paper containing IC chip, The information which cannot be especially expressed in a paper part like voice or a highly minute image, and a lot of information which cannot be indicated into a paper part, Or the signal transduction approach using the paper containing IC chip according to claim 2 characterized by being at least one of the information **s which consist of headline information which shows the outline of the body of the information recorded on said paper containing IC chip, and said information body.

[Claim 9] The signal transduction approach using the paper containing IC chip according to claim 2 characterized by to offer the map which can be used as an information input medium to the equipment which prints a map to the paper part of said paper containing IC chip, records the positional information on the map of the image of the location where IC was embedded on IC part, and offers information using positional information.

[Claim 10] The signal transduction approach using the paper containing IC chip according to claim 2 characterized by offering the paper which indicated the television broadcasting race card which can print a television broadcasting race card to the paper part of said paper containing IC chip, can record the information on the program of a location that IC was embedded on IC part, and can be used as an information input medium to television television equipment or television recording equipment.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention is concerned with the signal transduction approach, and is concerned with the approach of using the paper which was united with an electronic storage like the paper containing IC chip especially, and distributing, delivering, receiving and saving information.
[0002]
[Description of the Prior Art] Drawing an alphabetic character and drawing on paper, and delivering and receiving them as an approach of transmitting information, from the former, is performed widely. Although the signal transduction by media other than paper, such as being based on voice, is also possible, paper is the signal transduction medium which has the function of not only informational transfer but distribution, or preservation, and was excellent also in list nature.
[0003]
[Problem(s) to be Solved by the Invention] However, when an alphabetic character and drawing were drawn on paper and information was transmitted, there were the following problems.
[0004] Forgery, a postscript, and deletion are [1st] comparatively easy.
[0005] Only a vision healthy person can use for the 2nd.
[0006] It deteriorates, while using an optical copying machine for the 3rd and repeating a copy.
[0007] When computer-processing to the 4th, recognition by special equipments, such as OCR, is required for it.
[0008] The tooth space which indicates [5th] information may be limited.
[0009] It is difficult to restrict those who anyone catches sight of as for the information written [6th] to paper (if it is a vision healthy person), and permit what is seen.
[0010] It is difficult for the 7th to find out a desired thing from a lot of paper.
[0011] The purpose of this invention is to offer the signal transduction approach which combined the information indicated by the paper and the information memorized by the electronic storage.
[0012]
[Means for Solving the Problem] In order to attain the purpose of this invention, in this invention, we decided to adopt the approach of using the paper containing IC chip as a means of signal transduction, indicating an alphabetic character and drawing as usual into the paper part of the paper containing IC chip, and recording the electronic data which expresses with IC part the information relevant to the alphabetic character and drawing which were recorded on the paper part, and the electronic data showing the information which is completely unrelated.
[0013]
[Embodiment of the Invention] [the fundamental approach of this invention] -- the fundamental approach for carrying out this invention is shown first. An example of an equipment configuration which makes this invention process to drawing 1 is shown as a block diagram. The whole equipment consists of an input unit 10, a central processing unit 20, storage 30, an output unit 40, and IC reader writer 60. Each connection relation is as being shown in drawing 1 . Here, an input device 10 is one

piece or two or more equipments for changing an alphabetic character, a configuration, voice, etc. which human being recognizes into the electronic signal which can process a central processing unit 20 like a mouse, a keyboard, and a microphone. Moreover, an output unit 40 is one piece or two or more equipments for changing an electronic signal into the gestalt which human being can recognize like a display, an airline printer, and a loudspeaker. Moreover, IC reader writer 60 is equipment equipped with either [at least] the function (light function) which records electronic data on a semiconductor IC, or the function (lead function) which reads electronic data from a semiconductor IC. Record or read-out of the electronic data is possible even if IC reader writer does not touch a semiconductor IC.

[0014] In drawing 1 , the part 1 enclosed with a broken line shows the paper containing IC chip. The paper containing IC chip shall be the paper which carried IC chip, and the part of paper and the part of IC chip should be united. the paper containing IC chip may stick IC chip on some usual papers, and is ******** about IC chip -- you may be paper. In drawing 1 , 2 shows the paper part of the paper containing IC chip, and 3 shows IC part. However, it is not necessary to dissociate for convenience and to illustrate about these parts, and the structure top does not necessarily need to be separated.

[0015] A usual personal computer and a usual word processor possess an input unit 10, a central processing unit 20, storage 30, and an output unit 40 at least. In such a personal computer and a word processor, the information publication to the conventional paper is realizable by connecting an airline printer as an output unit 40, and performing the program of document preparation software or drawing software with a central processing unit 20. This invention makes possible record of the electronic data to IC part of the paper containing IC chip, or read-out of the electronic data from IC part by adding IC reader writer 50 further.

[0016] The fundamental flow of the approach of carrying out this invention to drawing 2 is shown. The flow of this approach is roughly divided into two parts. The process in which one records information on the paper containing IC chip, and another are the processes in which the recorded information is used. The former process is from the "start" of a flow to step 200, and the latter process is from step 300 to the "end" of a flow.

[0017] The following steps are processed in the process which records information. First, the thing which is going to emit information at step 100, or those (below, it doubles and is called an information addresser) who is going to save information inputs document data. The data about an alphabetic character and the data about drawing are included in document data. Such document data can be inputted using the personal computer and word processor with which document preparation software and drawing software were installed. Data, such as a location of an alphabetic character and a color, and a character code are included in the data about an alphabetic character. Data, such as a configuration of drawing, a location of the focus which constitutes drawing, and a color of drawing, are included in the data about drawing.

[0018] Data are changed at step 110 and step 130 using the document data inputted at step 100. At step 110, the document data inputted at step 100 are changed into the pixel data of a printing image. That is, every one data of the alphabetic character contained in document data or drawing is analyzed, and the pixel data of 1 ream are created. At step 130, all or some of document data inputted at step 100 are changed, and new electronic data is created. Here, convenient conversion is performed to next facilities. Whether it changes especially into the electronic data of what kind of format does not limit. Moreover, you may move to the following step 140 as electronic data new as it is, without changing at all the document data inputted at step 100. Or what deletes some document data inputted at step 140, and uses the remaining document data as new electronic data is sufficient.

[0019] At step 120, it prints into the paper part 2 of the paper 1 containing IC chip based on the pixel data created at step 110. At step 140, the electronic data created at step 130 is recorded on the IC part 3 of the paper 1 containing IC chip.

[0020] The flow in which it results [from step 100] to step 110 and step 120 is the same as the flow of the conventional document preparation. Information can be indicated on paper by making these steps process to the document preparation software and drawing software for personal computers or a word processor, and an airline printer. This invention enables it to record the electronic data of the information

indicated on paper, and these contents on a format convenient to next facilities by adding step 130 and step 140 further.
[0021] Processing of the above step can be made to perform by the equipment configuration shown in drawing 1 . However, it is necessary to include an airline printer as an output unit 40, and IC reader writer needs to have the light function.
[0022] Processing of step 100 is performed through an input unit 10. An information addresser inputs document data through an input device 10, and a central processing unit 20 receives the document data. A central processing unit 20 once stores the received document data in storage 30 each time. When the output unit 40 contains the display monitor, the contents of an input are displayed and it enables it to check.
[0023] A central processing unit 20 performs transform processing of step 110. A central processing unit 20 reads the document data once memorized by the store 30, and changes them into pixel data. The program for changing is beforehand stored in another field in storage 30, and is performed by a central processing unit 20 beginning to read this serially. A well-known thing shall be used about the algorithm of a conversion program. The airline printer which an output unit 40 includes performs step 120. Delivery and an airline printer print the pixel data which the central processing unit 20 changed and were created at the paper part 2 of the paper 1 containing IC chip based on these pixel data to an airline printer. In addition, central treatment equipment 20 and an airline printer may share processing of step 110 and step 120. For example, when an airline printer is what can read image vector data like PostScript, a central processing unit 20 may change document data into image vector data first, and how delivery and an airline printer change and print this image vector data to pixel data may be used for an airline printer.
[0024] A central processing unit 20 performs processing of step 130. A central processing unit 20 is changed into the electronic data of the format which read the document data memorized by the store 30 and was specified beforehand. The program for changing is beforehand stored in another field in storage 30, and is performed by a central processing unit 20 beginning to read this serially. The light function which IC reader writer 50 has performs processing of step 140.
[0025] the paper containing IC chip which recorded information by the processing so far at step 200 -- an intention of an information addresser -- being based -- distribution -- or it sends or saves. The above is the process which records information.
[0026] The following steps are processed in the process in which information is used. Step 300 corresponding to step 200 hits the beginning of this process first. At step 300, the distributed paper containing IC chip is received, the sent paper containing IC chip is received, or the saved paper containing IC chip is taken out.
[0027] At step 310, those who received the paper 1 containing IC chip with which information was recorded, those who received, or those (below, it doubles and is called an information addressee) who took out reads the image printed by the paper part 2 by vision, and recognizes the contents of the information.
[0028] At step 320, the electronic data recorded on the IC part 3 of the paper 1 containing IC chip is read, and it changes into the electronic data of a convenient format at next facilities. Whether it changes into the electronic data of what kind of format does not limit especially here. Moreover, you may move to following step 330 or following step 340 as electronic data new as it is, without changing the read electronic data at all. Or some read electronic data is deleted and it is good also considering the remaining electronic data as new electronic data.
[0029] At step 330, the electronic data changed and created at step 320 is restored as a certain media which human beings, such as voice and a configuration, can recognize, and an information addressee recognizes the informational contents through the media. At step 340, the informational contents are used for other purposes by processing and processing the electronic data changed and created at step 320.
[0030] The flow from step 300 to step 310 is the flow of the signal transduction in the conventional paper. This invention is raising the possibility of an information activity while the signal transduction

approach makes it diversified by adding step 320, step 330, and step 340 to this.
[0031] Processing for using the above papers containing IC chip with which information was recorded can be performed by the equipment configuration of the block diagram shown in drawing 1 . That is, the whole equipment consists of an input unit 10, a central processing unit 20, storage 30, an output unit 40, and IC reader writer 50. Each connection relation is as being shown in drawing 1 . However, IC reader writer 50 needs a lead function. Moreover, the input unit 10 in this, a central processing unit 20, and storage 30 may consist of personal computers.
[0032] Equipment is not needed in processing of step 300 and step 310. IC reader writer 50 and a central processing unit 20 perform processing of step 320. Delivery and central treatment equipment 20 change the electronic data into a central processing unit 20 for the electronic data to which IC reader writer 50 read and read electronic data from the IC part 3 of the paper 1 containing IC chip by the lead function. The program for changing is beforehand stored in another field in storage 30, and is performed by a central processing unit 20 beginning to read this serially.
[0033] Processing of step 330 is performed through an output unit 40. Delivery and an output unit 80 output electronic data for the electronic data which the central processing unit 20 changed at step 320 to an output unit 40 with the gestalt which can be recognized to human being. A central processing unit 20 performs processing of step 340.
[0034] The above is processing of the process in which the information recorded on the paper containing IC chip is used. What is necessary is just to perform return and processing of the process which records information again to step 100, when information needs to be further added to the paper containing IC chip using information (or edit).
[0035] Below, a concrete example realizable in accordance with the fundamental approach of above-mentioned this invention is given, and it explains to a detail.
[0036] The 1st example of [the 1st example] is an example of the approach of distributing the villa advertisement which can also tell a visually impaired person information using the paper containing IC chip.
[0037] The example of an equipment configuration for creating a villa advertisement is shown in drawing 3 . A keyboard 1001 shall be provided as an input device and a display 1002 and an airline printer 1003 shall be provided as an output unit. Furthermore, a central processing unit 20, storage 30, and the IC writer 1004 are provided. The IC writer 1004 is equipment which has the function (light function) which records data on a semiconductor IC.
[0038] A villa implementer shows the flow of the process which creates a villa advertisement to drawing 4 . First, in step 1100, a villa implementer inputs a character string from a keyboard 1001. If the contents of an input are received, while outputting a central processing unit 20 to a display 1002 serially, it is made to once hold to storage 30 as a character code train. for example, -- "-- supposing the character string ****** rare" which is not obtained like this is inputted, the character code train of "82b1, 82a4, 82a6, 82 f1, 82 d6, 82a0, 82c2, 82dc, and 82ea" (the 1st code train is called hereafter) is once stored in storage 30 with a hexadecimal expression. However, "Shift JIS" was used as a method of coding here. In addition, in this invention, the method of coding is not limited to Shift JIS. Furthermore, supposing a villa implementer inputs a kanji conversion demand from a keyboard, it will change into a kanji character code according to a demand. For example, when it is the demand which changes the character string of the aforementioned example for "gathering to a park", a code train is a hexadecimal expression, serves as "8cf 6 and 8980, 82 d6, 8 f57, 82dc, and 82ea" (the 2nd code train is called hereafter), and also once stores this code train in storage 30.
[0039] At step 1101, the code train of [2nd] the character code trains acquired at step 1100 is changed, and the image data used as a printing image is obtained. The image data for every alphabetic character called a font to another field of a store 30 is stored beforehand, this is read and the whole image data is created. For example, in the 2nd code train of the above-mentioned example, the font corresponding to code 8cf6 is read first, it arranges at a left end, then the font corresponding to a code 8980 is read, it arranges from Hidari to the 2nd, and, finally the character string "gather to a park" creates like the following the image data of an image written on space. At step 1102, a central processing unit 20

transmits this image data to an airline printer 1003, and performs printing to the paper part 2 of the paper 1 containing IC chip.

[0040] At step 1103, the code train of [1st] the character code trains acquired at step 1100 (character string of only a kana) is changed, and voice data is obtained. The voice data for sound-source equipments later mentioned to another field of a store 30 is beforehand stored for every kana, this is read and the whole voice data is created. For example, in the 1st code train of the above-mentioned example, the voice data corresponding to a code 82b1 is read first, it is made into top voice data, then the voice data corresponding to a code 82a4 is read, and the data is tied to top voice data, and hereafter, voice data is connected one by one and it considers as the whole voice data. At step 1104, a central processing unit 20 transmits this voice data to the IC writer 1004, and performs record into the IC part 3 of the paper 1 containing IC chip.

[0041] The example of an equipment configuration for recognizing the contents of the villa advertisement created as mentioned above is shown in drawing 5 . Sound-source equipment 1201 is provided as an output unit, and a central processing unit 20, storage 30, and the IC reader 1202 are provided further. The IC reader 1202 is equipment which has the function (lead function) to read data in a semiconductor IC.

[0042] The flow of the process in which the contents of the villa advertisement are recognized is shown in drawing 6 . First, distribution of a villa advertisement is made at step 1301. When those who received distribution of a villa advertisement are vision healthy persons, the contents (for example, "gather to a park") printed by the villa advertisement by vision at step 1302 are recognized. In this case, the equipment of drawing 5 is not needed. When a visually impaired person etc. receives distribution of a villa advertisement, it progresses to step 1303 using the equipment of drawing 5 . At step 1303, while the IC reader 1202 reads voice data from the IC part 3 of the paper 1 containing IC chip which is a villa advertisement, it sends to a central processing unit 20. The central processing unit collects the voice data which won popularity to storage 30. if the IC reader 1202 finishes reading all voice data, a central processing unit 20 will transmit the voice data accumulated in the store 30 to sound-source equipment 1201, and will output voice (the above-mentioned example -- "-- ****** rare" which is not obtained like this). At step 1304, the voice to which the visually impaired person etc. was outputted is heard, and the contents of the villa advertisement are recognized.

[0043] As a modification of the 1st example of [the modification 1 of the 1st example], the example which records a character code train on IC part of the handbill for visually impaired persons is explained. The flow of the creation process of a handbill is shown in drawing 7 . The equipment configuration to carry out is the same as that of drawing 3 , and is good. A character code train is first inputted from a keyboard 1001 at step 1401. At step 1402, an input string is changed into image data, this image data is transmitted to an airline printer 1003 at step 1403, and it prints into the paper part 2 of the paper 1 containing IC chip. Steps 1401, 1402, and 1403 are the same as steps 1100, 1101, and 1102 of drawing 4 of the 1st example respectively. At step 1404, the character string (the aforementioned example 1st character code train) inputted at step 1401 is recorded on the IC part 3 of the paper 1 containing IC chip through the IC writer 1004 as it is.

[0044] The flow which recognizes the contents in response to a handbill to drawing 8 is shown. In drawing 5 , the part of sound-source equipment 1201 of the equipment configuration to carry out should replace the voice synthesizer (what receives the input of a character code). Distribution of a handbill is received at step 1501. At step 1502, a vision healthy person etc. looks at the contents of printing of the paper part of a handbill, and recognizes information. Steps 1501 and 1502 are the same as steps 1301 and 1302 of drawing 6 of the 1st example respectively. At step 1503, a central processing unit 20 reads the character code recorded on IC part of a handbill from the IC reader 1202, and is once accumulated in storage 30. Furthermore, this accumulated character code is transmitted to a voice synthesizer, and voice is generated. At step 1504, a visually impaired person etc. hears voice and recognizes the contents of the villa advertisement.

[0045] The example using Braille points is explained as another modification of the 1st example of [the modification 2 of the 1st example]. The flow of the creation process of a handbill is shown in drawing

9 . The equipment configuration to carry out is the same as that of drawing 3 , and is good. Alphabetic data and drawing data are first inputted from a keyboard 1001 (or mouse) at step 1601. At step 1602, the inputted data are changed into image data, this image data is transmitted to an airline printer 1003 at step 1603, and it prints into the paper part 2 of the paper 1 containing IC chip. Steps 1601, 1602, and 1603 are the same with printing a document using usual drawing software and document preparation software. At step 1604, the data inputted at step 1601 are recorded on the IC part 3 of the paper 1 containing IC chip through the IC writer 1004 as it is.

[0046] The flow which recognizes the contents in response to a handbill to drawing 10 is shown. In drawing 5 , the part of sound-source equipment 1201 of the equipment configuration to carry out should replace the Braille-points airline printer. Distribution of a handbill is received at step 1701. At step 1702, a vision healthy person etc. looks at the contents of printing of the paper part of a handbill, and recognizes information. Steps 1701 and 1702 are the same as steps 1301 and 1302 of drawing 6 of the 1st example respectively. At step 1703, a central processing unit 20 reads the data recorded on IC part of a handbill from the IC reader 1202, and is once accumulated in storage 30. Furthermore, a central processing unit 20 changes the stored data into Braille-points data. the program for changing is beforehand stored in storage 30, and a central processing unit 20 shall carry out reading appearance of this program serially, and shall perform it At step 1704, the changed Braille-points data are transmitted to a Braille-points airline printer, and Braille-points printing is carried out. At step 1504, when a visually impaired person etc. touches the paper by which Braille-points printing was carried out, the contents of the villa advertisement are recognized.

[0047] The 2nd example of [the 2nd example] is an example of the approach of creating a product catalog using the paper containing IC chip, and simplifying collection and arrangement of product specification data.

[0048] The flow of the approach of creating the product catalog of the paper containing IC chip to drawing 11 is shown. This approach is realizable using the equipment configuration of drawing 3 shown in the 1st example. First, the information indicated to a catalog at step 2101 is inputted. These are performed with a central processing unit 20, an alphabetic character and a configuration are inputted from the keyboard 1001 with a mouse, or the image prepared beforehand is specified [document preparation software, drawing software, tabulation software etc. are beforehand installed in storage 30,], and the pattern and alphabetic character of catalog space are created. With said software, the pattern and alphabetic character which were created are displayed on a display 1002 each time, and can be checked.

[0049] At step 2102, a central processing unit 20 changes into image data the pattern and alphabetic character which were created at step 2101, and it once stores in storage 30. At step 2103, a central processing unit 20 takes out this image data from a store 30, transmits to an airline printer 1003, and prints into the paper part 2 of the paper 1 containing IC chip. Processing of step 2102 and step 2103 is also performed by the program of said software.

[0050] The example of the catalog image printed to drawing 12 is shown. In this example, a catalog image consists of Table 2201 about the specification of a product, the image 2202 of the object photograph of a product, and other character strings. That is, it means inputting the tabular data about product specification, the image data of the object photograph of a product, and other character-string data at step 2101. Moreover, the detail of Table 2201 about product specification is shown in step drawing 13 . A table can consist of an item and a value and can be created with tabulation software.

[0051] At step 2104, a central processing unit 20 changes the aforementioned table into the data of an XML (eXtensible Markup Language) format. The changed data are once stored in storage 30. In addition, the specification of XML is opened to http: of WWW//www.w3.org/TR/PR-xml -971208. Based on this specification, the example which changed the table of drawing 13 is shown in drawing 14 . However, this invention may not be limited to an XML format and other formats of having followed the fixed regulation may be used.

[0052] At step 2105, a central processing unit 20 transmits the data of the aforementioned XML format, and the data of catalog information inputted at said step 2101 to the IC writer 1004, and records on the IC part 3 of the paper 1 containing IC chip. The above is the process which creates a product catalog.

[0053] The flow of the process which collects catalogs to drawing 15 and carries out a product comparison is shown. The catalog which usually collected catalogs at step 2301 first, and were collected at step 2302 is compared to collect the catalogs of a congener product and perform comparison and examination of a product. Equipment is not needed at this time. However, ****** will become difficult if the number of catalogs increases in this case. Then, step 2303 - step 2305 are processed with the equipment of a configuration as shown in drawing 16 .
[0054] First, the product catalogs made from the paper containing IC chip created by said approach are collected at step 2301. At step 2303, the data currently recorded on IC part of a product catalog are read from the IC reader 1202. A central processing unit 20 receives this data, and once stores it in storage 30.
[0055] At step 2304, a central processing unit 20 takes out and analyzes only the XML formal data of the specification about the product parameter of said data. The part, < power consumption which were inserted, for example by the <model name> and the </model name> by the data of drawing 14 supposing it was determined that the data of the model name of a product, power consumption, and a price were displayed on order with a high price Unit = the part, < price which were inserted by "W" > and </power consumption> Unit = the part pinched at "circle" > and a </price> is extracted. That is, "HD33221100BP987", "1.5", and "10000" are extracted, respectively. It carries out also about the data of the product catalog with which others collected such processings. These extracted data are expressed in order with a high price as step 2305 side by side. The example of a display result is shown in drawing 17 .
[0056] Although the above-mentioned example explained as what the display item and the display format are beforehand set to, this invention is not limited to this and you may enable it to specify the item and display format which are displayed from a keyboard 1001.
[0057] The 3rd example of [the 3rd example] is an example of the approach of drawing up a distributivity document using the paper containing IC chip. A distributivity document points out the document exchanged between two or more companies or its post, and various kinds of application forms and contracts are the example of representation here. Here, the document used by foreign-trade-finance dealings is explained to an example. In foreign-trade-finance dealings, the great portion of information which two or more intervention persons, such as a bank, an insurance company, a shipping company and an airline, a customs broker, and a customhouse, exist, and various documents are exchanged among the intervention person including the exporter and the importer, and is indicated by the document has many which are used in common among two or more documents. In case a new document is drawn up, it inputs into DB the inside of the approach of newly typing the contents indicated by the document previously sent by other intervention persons, while checking by viewing, and once and its company, and self-section in the office, and the approach of printing through a printer etc. is taken again. However, a copy mistake, an input mistake, etc. from which the activity by viewing becomes a cause will have occurred, and the aforementioned approach will take time and effort, time amount, etc. as a result in the case of creation of a distributivity document, and transfer. In the 3rd example, in order to reduce this copy mistake and input mistake, how to use the paper containing IC chip is shown in a distributivity document.
[0058] The example of an equipment configuration for drawing up a distributivity document is shown in drawing 18 . A keyboard 3001 shall be provided as an input device and a display 3002 and an airline printer 3003 shall be provided as an output unit. Furthermore, a central processing unit 20, storage 30, and IC reader writer 3004 are provided. IC reader writer 3004 is equipment which has the function (light function) which records the function (lead function) and data which read data from a semiconductor IC.
[0059] The flow of the process in which a distributivity documenter draws up a document is shown in drawing 19 . First, in step 3100, a distributivity documenter inputs a character string from a keyboard 3001. If the contents of an input are received, while outputting a central processing unit 20 to a display 3002 serially, it is made to once hold to storage 30 as a character code train. About the method of storing the inputted character string in storage here and the approach of coding, and the inputted conversion approach (kanji conversion as an example) of a character string, it is the same as that of the 1st example.

[0060] At step 3200, the character code train acquired at step 3100 is changed, and the image data used as a printing image is obtained. The approach of storing beforehand the image data for every alphabetic character called a font to another field of a store 30, reading this, and creating the whole image data is the same as that of the 1st example.
[0061] At step 3300, a central processing unit 20 transmits this image data to an airline printer 3003, and performs printing to the paper part 2 of the paper 1 containing IC chip.
[0062] At step 3400, the character code train acquired at step 3100 is memorized into the IC part 3 of the paper 1 containing IC chip through IC reader writer 3004 as it is.
[0063] Here, the detail flow of the character code train input of step 3100 is shown in drawing 20 . First, in step 3110, the existence of reference data is inputted from a keyboard 3001. Here, reference data point out the information quoted from other documents among various kinds of information which should be indicated on the distributivity document used as the candidate for creation. When there are reference data, the search key item which is needed in case reference data are chosen is also doubled, and it inputs. As an example of a search key, there are a trade name for trade, an exporter name, an importer name, etc.
[0064] The existence of reference data is judged at step 3120.
[0065] At step 3130, reference data are read from a store 30 based on a search key.
[0066] At step 3140, reference data are transmitted to a central processing unit 20.
[0067] At step 3150, an insufficiency character code (data other than reference data) is inputted from an input unit 3001 among various kinds of information which should be indicated on the distributivity document used as the candidate for creation.
[0068] Further, in case reference data are read in step 3130, it becomes possible to choose reference data automatically here by using the mapping table having shown the relation of the item between documents. The example of a mapping table is shown in drawing 21 . It consists of the creation document name 3131, a subject name 3132, a reference title 3133, a reference subject name 3134, etc.
[0069] Moreover, a screen image just before inputting an insufficiency character code at step 3150 is shown in drawing 22 . About the information which can be quoted from the existing document among data required to draw up the document concerned, it is already input ending using the mapping table shown in drawing 21 .
[0070] The image of the final paper containing IC chip in drawing 19 , i.e., printing to a paper part, (step 3300), and the thing in the condition of having ended each step of record (step 3400) of a character code train into IC part are shown in drawing 23 . Although the thing equivalent to the information currently printed by the space of the paper part 2 of the paper 1 containing IC chip is printed by the IC part 3 of the paper 1 containing IC chip, it does not necessarily need to be completely the same. When the information stored in the IC part 3 is the digest of the information currently printed by space, or when [that] reverse, the information about its company and its post which delivered and made the distributivity document the IC part 3 etc. may be recorded. Moreover, as long as the storing approach to the IC part 3 can distinguish the information stored, it may be what kind of approach. For example, as shown in the 2nd example, you may be data of an XML format, and when informational record sequence is defined beforehand, it is good also by approaches, such as CSV (comma separated).
[0071] Here, the storing approach of the reference data used in drawing 20 is shown briefly. When a document is received from other companies or its post, the information currently recorded on the IC part 3 is read into a central processing unit 20 using IC reader writer 3004 shown in drawing 18 , and this is stored in storage 30.
[0072] The 4th example of [the 4th example] is an example of the approach of enabling it to acquire and use from paper information (for it to consider as related information hereafter) relevant to information given in paper, information which cannot be especially expressed in papers, such as voice and a highly minute image, and a lot of information which cannot be indicated on paper using the paper containing IC chip.
[0073] The configuration of the equipment used when an information addressee uses the related information of space written information for drawing 24 in this example, and an example of an

information flow are shown. The paper 1 containing IC chip is the paper 1 containing IC chip of drawing 1 , and has the paper part 2 and the IC part 3. The IC reader 4140 is equivalent to IC reader writer 30 of drawing 1 connected with the information output unit 4142 by communication media 4141. The IC reader 4140 reads electronic data from the IC part 3 of the paper 1 containing IC chip, and although it has the function transmitted to the information output unit 4142 through communication media 4141, it does not need to have the electronic data-logging function to IC. Communication media 4141 are used in order to perform data communication among two or more equipments regardless of a cable and wireless, such as RS-232C, USB, IEEE1394, IrBus, and TVIR, and they are well-known. The information output unit 4142 is an information processor possessing the central processing unit 20 of drawing 1 , storage 30, and an output unit 40 connected with the IC reader 4140 by communication media 4141, for example, is a personal computer and television equipped with the loudspeaker for outputting the display for displaying an image and an alphabetic character as an output unit 40, and voice. The information output unit 4142 receives the electronic data of the IC part 3 of the paper 1 containing IC chip from the IC reader 4140 through communication media 4141, and has the function outputted to an output unit 40. The information addressees 4143 are those who acquire information from the paper 1 containing IC chip, they read visually about the information printed by the paper part 2, recognize the contents of information, and recognize the contents of information through the output of the information output unit 4142 about the information recorded on the IC part 3.

[0074] An example of the paper containing IC chip of this example is shown in drawing 25 .

[0075] The paper 4150 containing IC chip is the paper 4151 in which the information on "ecology of a bird" was indicated by space, and two or more IC chips (IC4153, IC4155) are embedded. On the space of paper 4151, visible information, such as the photograph 4152 of a bird and an explanatory note 4154, is indicated. IC4152 is embedded in the location where the photograph 4152 of the bird which is IC chip which recorded the "cry of a bird" (voice data) which is the related information of the photograph 4152 of a bird, and is the space written information that it corresponds was printed. Similarly, IC4155 is IC chip which recorded the "photograph of a habitat" (image data) which is the related information of an explanatory note 4154, and is embedded in the location where the explanatory note 4153 was printed.

[0076] In addition, in drawing 25 , although IC chip is embedded for every related information, IC chip may be one and the form where two or more means (antenna part) by which IC reader and data communicate are given is sufficient as it. In this case, what is necessary is to specify the antenna with which IC chip is communicating with IC reader, and just to pass the data depending on that location to IC reader.

[0077] The flow of the creation process of the paper containing IC chip of this example is shown in drawing 26 .

[0078] Drawing 26 applies "from the start" which is the process which records information on the paper 1 containing IC chip among the fundamental flows of this invention shown in drawing 2 to the step 200 to this example. Hereafter, the process which records information on the paper 1 containing IC chip of this example is explained using the flow of drawing 26 .

[0079] Step 4000 is equivalent to step 100 of drawing 2 , and inputs the data of the information which an information provider prints into the paper part 2 of the paper 1 containing IC chip. Printed information data do not need to be electronic-filing-document data created with the personal computer etc. using document preparation software, drawing software, etc., and it can be easy to change them into the pixel data for printing. For example, the data inputted using an input device like the scanner which can incorporate the space written information on printed matter as image data are sufficient.

[0080] Step 4010 is equivalent to step 110 of drawing 2 , and the data inputted at step 4000 are changed into the pixel data of a printing image. Step 4020 is equivalent to step 120 of drawing 2 , and prints into the paper part 2 of the paper 1 containing IC chip based on the pixel data created at step 4010.

[0081] Step 4030 is equivalent to step 100 and step 130 of drawing 2 , and inputs the data of related information which an information provider records on the IC part 3 of the paper 1 containing IC chip. Related information data are electronic-filing-document data created using document preparation software, drawing software, etc., and a format will not be limited if the information which distinguishes

the format of electronic data, such as a file extension child and a MIME type, is included. For example, two or more things like the image data of the format of the voice data of formats, such as character-string data expressed by character codes, such as JIS and UNICODE, and WAV, AIFF, GIF, a JPEG image, etc. and they are summarized.

[0082] Step 4040 is equivalent to step 140 of drawing 2 , and records the electronic data created at step 4030 on the IC part 3 of the paper 1 containing IC chip.

[0083] In addition, in the case of the paper containing IC chip embedding two or more IC chips, step 4030 and step 4040 are repeated only for the number of IC chips like the paper 4150 containing IC chip of drawing 25 .

[0084] The paper 1 containing IC chip which recorded related information is created by the above process. Moreover, the above process can be made to perform by the equipment configuration shown in drawing 1 like the process which records information on the paper 1 containing IC chip of drawing 2 .

[0085] The flow of the process of the information use of the paper containing IC chip of this example to drawing 27 is shown.

[0086] Drawing 27 applies from step 300 which is the process in which the information recorded on the paper containing IC chip among the fundamental flows of this invention shown in drawing 2 is used to the "end" to this example. Hereafter, the process in which the information on the paper containing IC chip of this example is used is explained using the flow of drawing 27 .

[0087] Step 4110 is equivalent to step 310 of drawing 2 , and the information addressee 4143 reads the image printed by the paper part 2 of the paper 1 containing IC chip by vision, and recognizes the contents of the information.

[0088] Step 4120, step 4121, step 4123, and step 4125 are equivalent to step 320 of drawing 2 . First, at step 4120, the IC reader 4140 reads the related information electronic data recorded on the IC part 3 of the paper 1 containing IC chip, and transmits to the information output unit 4142 through communication media 4141. The information output unit 4142 which received electronic data distributes future processes by the difference in the media of electronic data.

[0089] When electronic data is voice data, the information output unit 4142 is changed and outputted to the format which can output voice data to the output unit (loudspeaker) of voice output correspondence at step 4121. Consequently, the information addressee 4143 can recognize the contents (voice) of related information at step 4122.

[0090] When electronic data is image data, the information output unit 4142 is changed and outputted to the format which can output image data to the output unit corresponding to an image output (display) at step 4123. Consequently, the information addressee 4143 can recognize the contents (image) of related information at step 4124.

[0091] According to the above process, the information addressee 4143 can refer to the contents of the space written information recorded on the paper containing IC chip, and its related information.

[0092] If the paper 4150 containing IC chip of drawing 25 is made into an example, the information addressee 4143 will recognize the information on "the ecology of a bird" given in space first (step 4110). Next, if the IC reader 4140 is brought close to the location where the photograph 4152 of a bird was printed, the IC reader 4140 will read "cry of bird" electronic data from IC4152 which recorded the "cry of a bird" currently embedded in near, and will transmit to the information output unit 4142. The information output unit 4142 will be distinguished from the data-format information included in the received electronic data, if this data is voice data (so far step 4120), and it is changed and outputted to the format which can output data to a loudspeaker (step 4121). The information addressee 4143 recognizes the speech information of "the cry of a bird" as related information of the photograph 4152 of a bird (step 4122). moreover, IC4155 on which the IC reader 4140 recorded the "photograph of a habitat" currently embedded in near when the IC reader 4140 was brought close to the location where the explanatory note 4154 was printed -- since -- "photograph of habitat" electronic data is read and it transmits to the information output unit 4142. The information output unit 4142 will be distinguished from the data-format information included in the received electronic data, if this data is image data (so far step 4120), and it is changed and outputted to the format which can output data to a display (step

4123). The information addressee 4143 recognizes the image information of "the photograph of a habitat" as related information of an explanatory note 4154 (step 4124).
[0093] The above process can refer "ecology of bird" information which is space written information and "the cry of a bird" which is the related information, and "the photograph of a habitat" in the example of the paper 4150 containing IC chip of drawing 25 .
[0094] In addition, in explanation of the above-mentioned flow, although only the processing about voice and an image was shown as media of electronic data, alphabetic data, image data, etc. can process similarly other media which can record on IC chip and can be outputted with the information output unit 4142 in the flow of drawing 27 .
[0095] In addition, although the IC reader 4140 transmitted electronic data to the information output unit 4142 immediately in old explanation when it read electronic data from IC chip After setting between fixed time amount of the 0.5-second and 1-second back, it is made to transmit to the information output unit 4142, after reading electronic data. By giving while separating the IC reader 4140 from IC chip before outputting to the information output unit 4142, an information addressee can select now the electronic data outputted to the information output unit 4142. Moreover, effectiveness with the same said of outputting between fixed time amount to an output unit in the direction of the information output unit 4142, also after receiving electronic data is acquired.
[0096] In addition, it comes to be able to perform choice of transmission of an information addressee of electronic data by old explanation by making it transmit, although the IC reader 4140 transmitted electronic data to the information output unit 4142 immediately when it read electronic data from IC chip, when the IC reader 4140 is equipped with a carbon button or a switch and an information addressee pushes it. Moreover, by equipping the IC reader 4140 with a means, for example, a means to shine, to make a sound or to vibrate, to tell an information addressee about having approached IC chip until read-out of electronic data becomes possible, an information addressee can know now in which space written information electronic data (related information) exists, and this is also assistance [choice / of electronic data transmission].
[0097] The external view of an example of IC reader which carried out expansion to drawing 28 as mentioned above is shown.
[0098] The IC reader 4160 is a pen configuration and the electronic data of IC chip can be read by bringing a nib close to IC chip embedded on the paper containing IC chip. The carbon button 4161 for determining read-out of the electronic data of IC chip and transmission to an information output unit as pen width and a nib and a carbon button 4162 are equipped, and the tail of a pen is equipped with the notice section 4163 which notifies that IC chip in which electronic data read-out is possible exists.
[0099] The equipment configuration Fig. of the pen configuration IC reader 4160 is shown in drawing 29 .
[0100] The data lead section 4170 is a means for reading electronic data from IC chip, and the data transmitting section 4172 is a means for transmitting electronic data to an information output unit. This IC reader usual [two] possesses.
[0101] It is the means which can notify to other means that the carbon button section 4171 was pushed on the information addressee and which can be done, and the notice section 4173 is a means by which light, a sound, and vibration can be generated using LED, a sound source and a loudspeaker, and a motor.
[0102] The processing flow of the pen configuration IC reader 4160 is shown in drawing 30 .
[0103] The processing shown by the flow of drawing 30 corresponds to the electronic data read-out process which is a part of step 4120 of drawing 27 . Hereafter, activation actuation of the pen configuration IC reader 4160 is explained using the flow of drawing 30 .
[0104] At step 4200, the pen configuration IC reader 4160 communicates IC chip whose communication link was attained by having approached first, and pre-preparation of electronic data read-out.
[0105] At step 4210, the pen configuration IC reader 4160 is changing the condition of the notice section 4163, and notifies the information addressee 4143 of IC chip which can read electronic data existing. This is realized by making the input of the data lead section 4170 reflect in the notice section

4173.
[0106] At step 4220, it distinguishes whether the carbon button 4161 or carbon button 4162 of the pen configuration IC reader 4160 was pushed, when pushed, it progresses to step 4230, and when that is not right, it progresses to step 4250.
[0107] At step 4230, the pen configuration IC reader 4160 reads electronic data from IC chip, and in continuing step 4240, the pen configuration IC reader 4160 transmits electronic data to the information output unit 4142, and it finishes processing.
[0108] On the other hand, at step 4250, it separated from IC chip, or (did it become IC chip and communication link impossible?) when distinction of how is performed and it separates, processing is ended, and the pen configuration IC reader 4160 returns to step 4210, when that is not right.
[0109] By the above processing, the information addressee 4143 can select now the related information which can know in which written information on space related information exists using the pen configuration IC reader 4160, and is outputted with the information output unit 4142.
[0110] If the paper 4150 containing IC chip shown by drawing 25 is made into an example, when the information addressee 4143 brings the pen configuration IC reader 4160 close to the location where the photograph 4152 of a bird was printed, it will communicate with IC4152 which recorded the "cry of a bird" embedded in near (step 4200). Then, in order to notify that IC chip which can read electronic data exists in the photograph 4152 of a bird, the condition of the notice section 4163 of the pen configuration IC reader 4160 changes (step 4210 (for example, it shines)). If the information addressee 4143 pushes the carbon button 4161 of the pen configuration IC reader 4160 (step 4220; Yes), the electronic data of "the cry of a bird" will be read from IC4152 (step 4230), it will transmit to the information output unit 4142 (step 4240), and processing will be finished. The information addressee 4143 does not push the carbon button 4161 of the pen configuration IC reader 4160 (step 4220; No), but when the pen configuration IC reader 4160 is separated from IC4152 in the photograph 4152 and location of a bird (step 4250; Yes), processing finishes.
[0111] By the above processing, the information addressee 4143 can select now the related information which can know whether related information exists in the photograph 4152 of a bird, and is outputted with the information output unit 4142 in the example of the paper 4150 containing IC chip of drawing 25 .
[0112] In addition, in explanation of the above-mentioned flow, the IC reader 4160 reads electronic data from IC chip previously, and after a carbon button is pushed, it may only be made for electronic data to be read from IC chip and to transmit to the information output unit 4142, after a carbon button is pushed, but to transmit. In this case, when transmitting electronic data, the IC reader 4160 may come to be separated from IC chip. In this case, step 4250 of the processing flow of drawing 30 is not only processed.
[0113] Moreover, in explanation of the above-mentioned flow, although the IC reader 4160 is considering as the thing of the pen configuration equipped with a carbon button and the notice section 4173, as long as it has a carbon button and the notice section, what kind of configuration is sufficient as it.
[0114] Moreover, in explanation of the above-mentioned flow, although it is equipped with a carbon button and the notice section 4173, as long as the need [neither of IC reader 4160 / the function which notifies existence (existence of related information) of IC chip which can read electronic data], the notice section may omit it. In this case, step 4210 of the processing flow of drawing 30 is not only processed. Moreover, although the IC reader 4160 has equipped two carbon buttons, the processing flow of drawing 30 does not depend on the number of carbon buttons, but it can apply it to it.
[0115] Moreover, although the notice section 4173 for notifying existence (existence of related information) of IC chip which can read electronic data is given to the IC reader 4160 in the above-mentioned flow explanation, a means to notify the communication link with IC reader to the direction of IC chip is added, and you may make it notify the information addressee 4143 of existence of related information.
[0116] In addition, although the related information recorded on IC chip was considering as singular

media data in old explanation, two or more media data may be recorded. In this case, it enables the information addressee 4143 to refer to the related information of rich power of expression by two or more media.
[0117] The example of an output screen in the information output unit of the related information which used two or more media data for drawing 31 is shown.
[0118] The related information 4190 shown by drawing 31 should be recorded on IC4155 as related information of the explanatory note 4154 of the paper 4150 containing IC chip shown by drawing 25 . Related information 4190 combines two or more media, such as "photograph of habitat" 4191, "explanatory note of habitat" 4192, and other information, and is outputted as an image which combined on the display of the information output unit 4142.
[0119] An example of the contents of the IC chip which recorded two or more electronic data which constitutes the related information 4190 of space written information on drawing 32 is shown.
[0120] The related information data 4180 in IC chip consist of electronic data of two or more media, such as the layout information 4181 which specifies the output layout of two or more media electronic data, the electronic data 4182 of "explanatory note of habitat" 4192, the electronic data 4183 of "photograph of habitat" 4192, and other data. The layout information 4181 is described in the language which specifies the output layout of two or more media like HTML (HyperText Markup Language).
[0121] The flow of the process of the related information use which contained two or more electronic data of the paper containing IC chip in drawing 33 is shown. Drawing 33 has added step 4310 which reads and memorizes layout information to the flow shown in drawing 27 . Moreover, step 4121 which performs conversion of electronic data and the output to the corresponding output unit, step 4122, step 4123, and step 4124 are summarized to step 4320. Moreover, in order to treat two or more electronic data, it has changed so that a loop formation may be carried out, until it connects with step 4300 and step 4310 and step 4320 output all electronic data. Hereafter, the process in which the information on the paper containing IC chip of this example is used is explained using the flow of drawing 33 .
[0122] Like step 4120 of drawing 27 , step 4300 reads one related information electronic data from the paper 1 containing IC chip from the IC reader 4140, and distributes future processings by the difference in the media of electronic data.
[0123] When electronic data is layout information, at step 4310, the information output unit 4142 saves layout information at storage temporarily, and returns to step 4300.
[0124] It changes into the format which can be outputted to a display if it is the output unit corresponding to [in the information output unit 4142 / electronic data / the case of media data, such as voice and an image,] media at step 4320, for example, voice, and is a loudspeaker and an image, and it outputs based on layout information [finishing / reading], and returns to step 4300.
[0125] When finishing reading all electronic data, the output of related information is completed, consequently it is step 4330, and the information addressee 4143 can recognize the contents of the related information expressed combining two or more media.
[0126] The above process enables the information addressee 4143 to refer to the contents of the related information expressed by two or more media recorded on the paper containing IC chip.
[0127] If the information addressee 4143 brings the IC reader 4140 close to the location where the explanatory note 4154 was printed when the paper 4150 containing IC chip shown by drawing 25 was made into the example, the IC reader 4140 will read the layout information 4181 first among the contents 4180 of IC4155 currently embedded in near, and will transmit to the information output unit 4142. The information output unit 4142 distinguishes the received electronic data from layout information (so far step 4300), and saves data at storage (step 4310). Continuing, the IC reader 4140 reads the electronic data 4182 of "explanatory note of habitat" 4192 from IC4155, and transmits to the information output unit 4142. The information output unit 4142 is changed and outputted to the format which can output data to a display according to the layout information which distinguished the received electronic data from alphabetic data (so far step 4300), and was saved at step 4310 (step 4320). Continuing, the IC reader 4140 reads the electronic data 4183 of "photograph of habitat" 4191 from IC4155, and transmits to the information output unit 4142. The information output unit 4142 is changed

and outputted to the format which can output data to a display according to the layout information which distinguished the received electronic data from image data (so far step 4300), and was saved at step 4310 (step 4320). Such a process is repeated, if it finishes outputting all the electronic data contained in the contents 4180 of IC4155 (step 4300), the output of related information 4190 will be completed, consequently it is step 4330, and the information addressee 4143 can recognize the contents of the related information 4190 expressed combining two or more media.

[0128] The above process enables the information addressee 4143 to refer to the contents 4180 of the related information 4190 expressed by two or more media recorded on the paper 4150 containing IC chip.

[0129] In addition, after reading two or more electronic data collectively, it collects according to layout information and you may make it output the information output unit 4142 in explanation of the above-mentioned flow, although it is beginning to read every one electronic data which constitutes related information from IC chip and being outputted to the output unit. In this case, at step 4320, conversion of electronic data and preservation to storage will be performed, and the step of outputting the electronic data saved at storage in "termination" of step 4300 will be added. Moreover, at this step, when layout information is described by HTML, well-known software like the WWW (World Wide Web) browser which is a browser which outputs electronic data according to HTML can also be used.

[0130] Moreover, although the information output unit 4142 was outputting the electronic data which constitutes the related information acquired from IC chip according to the layout information acquired from IC chip, the information output unit 4142 holds layout information beforehand to the store, and you may make it output the electronic data of IC chip in explanation of the above-mentioned flow according to it. In this case, layout information does not necessarily need to be recorded on IC chip.

[0131] In addition, although all the electronic data that constitutes the related information of space written information from old explanation needed to be recorded on IC chip currently embedded in the location where space written information was printed The link information which shows the whereabouts of electronic data to IC chip instead of electronic data, For example, you may make it record a thing called URL which can access it with the electronic data on a CD-ROM drive with the electronic data on the pathname of the file which it stores, and an external WWW server.

[0132] The configuration of the equipment used into the electronic data which constitutes the related information of the above papers containing IC chip in drawing 34 when the electronic data of the exterior which is not recorded with IC chip is used, and an information addressee uses the related information of space written information, and an example of an information flow are shown.

[0133] The equipment configuration Fig. of drawing 34 connects external storage 4144 like a CD-ROM drive and a DVD-ROM drive to the information output unit of the equipment configuration Fig. of drawing 24 , and connects it to it through a communication line like the information storage server 4145 which is an information server of the exterior which accumulates and distributes various information, and the Internet.

[0134] An example of the contents of the IC chip which recorded the link information to two or more electronic data which constitutes the related information 4190 of space written information, and external electronic data on drawing 35 is shown. IC -- a chip -- inside -- data -- 4430 -- drawing 32 -- having been shown -- IC -- a chip -- contents -- 4180 -- "-- a habitat -- a photograph -- " -- 4191 -- electronic data -- 4182 -- external storage -- storing -- having had -- a file -- a file name -- " -- Photo . -- jpg -- " (4433) -- ** -- carrying out . That is, it consists of electronic data of two or more media, such as the layout information 4431 which specifies the output layout of two or more media electronic data, the electronic data 4432 of "explanatory note of habitat" 4192, the link information 4433 of "photograph of habitat" 4192, and other data.

[0135] The flow of the process of the related information use in the case of using the electronic data of the exterior which is not recorded with IC chip in the electronic data which constitutes the related information of the paper containing IC chip in drawing 36 is shown. Drawing 36 has added step 4840 which uses a link information for the flow shown in drawing 33 , and acquires electronic data from external storage 4144 or the information storage server 4155, and step 4850 which performs conversion

of electronic data and the output to the corresponding output unit. Hereafter, the process in which the information on the paper containing IC chip of this example is used is explained using the flow of drawing 36 .

[0136] Like step 4300 of drawing 33 , step 4800 reads one related information electronic data from the paper 1 containing IC chip from the IC reader 4140, and distributes future processings by the difference in the media of electronic data.

[0137] When electronic data is layout information, at step 4810, the information output unit 4142 saves layout information at storage temporarily, and returns to step 4800.

[0138] It changes into the format which can be outputted to a display if it is the output unit corresponding to [in the information output unit 4142 / electronic data / the case of media data, such as voice and an image,] media at step 4820, for example, voice, and is a loudspeaker and an image, and it outputs based on layout information [finishing / reading], and returns to step 4800.

[0139] In the case of the link information to external electronic data, the information output unit 4142 is step 4840, electronic data interprets a link information, and electronic data is acquired from external storage 4144 or the information storage server 4155. At step 4850, if it is the output unit corresponding to media, for example, voice, and is a loudspeaker and an image, it changes into the format which can be outputted to a display, and it outputs based on layout information [finishing / reading], and returns to step 4800.

[0140] When finishing reading all electronic data, the output of related information is completed, consequently it is step 4830, and the information addressee 4143 can recognize the contents of the related information expressed combining two or more media.

[0141] The above process enables the information addressee 4143 to refer to the contents of the related information also containing the electronic data of the exterior which is not recorded on the paper containing IC chip.

[0142] If an information addressee 4143 brings an IC reader 4140 close to the location where the explanatory note 4154 was printed when the case where the contents of the IC chip shown in IC4155 currently embedded in the location of the explanatory note 4154 of the paper 4150 containing IC chip shown by drawing 25 by drawing 35 were held was made into the example, an IC reader 4140 reads layout information 4431 first among the contents 4430 of IC4155 currently embedded in near, and will transmit to an information output unit 4142. The information output unit 4142 distinguishes the received electronic data from layout information (so far step 4800), and saves data at storage (step 4810). Continuing, the IC reader 4140 reads the electronic data 4432 of "explanatory note of habitat" 4192 from IC4155, and transmits to the information output unit 4142. The information output unit 4142 is changed and outputted to the format which can output data to a display according to the layout information which distinguished the received electronic data from alphabetic data (so far step 4800), and was saved at step 4810 (step 4820). Continuing, the IC reader 4140 reads the electronic data 4183 of the file name 4433 which is a link information from IC4155 to the photograph of a habitat, and transmits to the information output unit 4142. The information output unit 4142 distinguishes the received electronic data from a link information (so far step 4800), and acquires image data from the external storage 4144 which is the point which a file name shows (step 4840). According to the layout information saved at step 4810, it changes and outputs to the format which can output data to a display (step 4850). Such a process is repeated, if it finishes outputting all the electronic data contained in the contents 4430 of IC4155 (step 4800), the output of related information 4430 will be completed, consequently it is step 4830, and the information addressee 4143 can recognize the contents of the related information 4190 expressed combining two or more media.

[0143] The above process enables the information addressee 4143 to refer to the contents 4330 of the related information also containing the electronic data of the exterior which is not recorded on the paper containing IC chip.

[0144] In addition, in old explanation, although related information limited related information to one IC chip, i.e., one piece, to one space written information at one piece, two or more related information may be recorded on IC chip. Henceforth, one related information is called a "page."

[0145] An example of the contents of the IC chip which recorded the two or more pages related information of space written information on drawing 37 is shown.
[0146] The related information data 4400 in IC chip consist of a related information page 1 (4402), a related information page 2 (4405), and other pages. The related information page 1 (4402) is the related information of the unit media only containing image data 4403, and the related information page 2 (4405) is related information which consists of electronic data of two or more media, such as the layout information 4406 which specifies the output layout of two or more media electronic data, alphabetic data 4407, image data 4408, and other data. Moreover, between pages, the break data 4401 and 4404 in which a page break is shown exist.
[0147] Although the approach of choosing the page outputted to the information output unit 4142 is needed for reference of two or more pages related information, it is possible to choose the related information outputted to the information output unit 4142 by preparing the device in which it transmits 1 page of related information at a time to the information output unit 4142 by pushing a carbon button in the IC reader 4160 which equipped the carbon button as shown by drawing 28 , for example.
[0148] The flow of the process of use of the two or more pages related information using the IC reader 4160 which equipped drawing 38 with the carbon button is shown. The process shown by the flow of drawing 38 includes the flow of the process of related information use in which it has so far explained. Hereafter, the process in which the information on the paper containing IC chip of this example is used is explained using the flow of drawing 38 .
[0149] At step 4500, the IC reader 4160 reads the electronic data (henceforth, page data) which constitutes a related information page from an IC chip by 1 page, and transmits to the information output unit 4142 through communication media 4141.
[0150] Distinction of how which was able to read page data is performed at step 4510. When page data are not able to be read, a flow is ended, and when that is not right, it progresses to step 4520 as it is.
[0151] At step 4520, the information output unit 4142 outputs page data. The process of an output is the same as the process of related information use in which it has so far explained.
[0152] Consequently, the information addressee 4143 can recognize the contents of the related information page for 1 page at step 4530.
[0153] At step 4540, when pushed, it progresses to return to step 4500 by distinguishing whether the carbon button 4161 or carbon button 4162 of the IC reader 4160 was pushed, and for read-out of the following page data, when that is not right, it progresses to the following step 4550.
[0154] At step 4540, it distinguishes whether the IC reader 4160 separated from IC chip, when it separates, a flow is ended, and when that is not right, it returns to step 4540.
[0155] The above process enables the information addressee 4143 to refer to the 1 page of the contents of two or more pages related information at a time.
[0156] If the contents 4440 of the IC chip shown by drawing 37 are made into an example and the information addressee 4143 will bring the IC reader 4160 close to IC chip, the IC reader 4160 will read the related information page 1 (4402) from IC, and will transmit to the information output unit 4142 (step 4500). Since page data exist (step 4510; No), the information output unit 4142 outputs image data 4403 as a related information page 1 (4402) (step 4520). The information addressee 4143 recognizes the image data 4403 of the related information page 1 as image information (step 4530). If the information addressee 4143 pushes the carbon button 4161 of the IC reader 4160 (step 4540; Yes), the IC reader 4160 will read the related information page 2 (4405) which is the following page from IC (step 4500). Since page data exist (step 4510; No), the information output unit 4142 outputs the alphabetic data 4407 of the related information page 2 (4402), image data 4408, etc. according to the layout information 4406 (step 4520). The information addressee 4143 recognizes the related information page 1 (step 4530). The information addressee's 4143 push of the carbon button 4161 of the IC reader 4160 repeats read-out and transmission of return and a page to step 4500 (step 4540; Yes). A flow is ended, when all page data are read (step 4510; Yes), or when the IC reader 4160 is separated from IC chip (step 4550; Yes).
[0157] The above process enables the information addressee 4143 to refer to the 1 page of the contents of two or more pages related information at a time.

[0158] In addition, the above-mentioned process can also be used together with the process which selects related information using the carbon button which the IC reader 4160 shown by drawing 30 equips. That is, although the transmitting initiation to the information output unit 4142 of related information data is meant when the IC reader 4160 was brought close to IC chip, it is notified by the information addressee 4143 that there is an IC which recorded related information and a carbon button 4161 is first pushed because the condition of the notice section 4163 of the IC reader 4160 changes, it is also transmission of the first page data at coincidence. Moreover, after the 2nd times, it becomes transmission of the page data which continued.
[0159] Moreover, although the related information page is transmitted by explanation of the above-mentioned flow by pushing the carbon button which the IC reader 4160 equips, you may make it transmit page data automatically at fixed spacing, such as 30 seconds and 1 minute. It also enables IC reader which has not equipped the carbon button to apply processing of the above-mentioned flow. In this case, step 4540 of the flow of drawing 38 turns into the step of returning to step 4500 after waiting for 30 seconds.
[0160] Moreover, in explanation of the above-mentioned flow, the IC reader 4160 is not limited about the transmitting procedure of the electronic data which constitutes especially a related information page, although the data for 1 page of a related information page are collectively transmitted to the information output unit 4142. That is, as it was also old explanation, every one electronic data which constitutes a page may be transmitted.
[0161] Moreover, in explanation of the above-mentioned flow, although the IC reader 4160 read every 1 page of page data from IC chip and has transmitted to the information output unit 4142 whenever a carbon button is pushed, the related information page data of all pages may be beforehand put in block, it may read, and it may transmit. Moreover, the IC reader 4160 reads collectively the page data which are all pages, and when a carbon button is pushed, you may make it transmit the page data for 1 page.
[0162] Moreover, although he is trying to output the following related information page with the information output unit 4142 in explanation of the above-mentioned flow whenever it pushes the carbon button which the IC reader 4160 equips, you may enable it to output the page of arbitration so that it may say that the last page will be outputted with the 3rd page and a carbon button C if a carbon button A is pushed and the 1st page and a carbon button B will be pushed. In this case, step 4540 of the flow of drawing 38 will specify the 1st page, if a carbon button A is pushed, and it turns into the step of returning to step 4500 and reading page data from IC chip.
[0163] In addition, although the related information page is transmitted by explanation of the above-mentioned flow by pushing the carbon button which the IC reader 4160 equips Like Screen 4410 of the information output unit 4142 of drawing 39 , besides the output of the related information page 4411 The "page [degree]" carbon button 4412 and the "last page" carbon button 4413 are formed. By choosing the "page [degree]" carbon button 4412 or the "last page" carbon button 4413 with input devices, such as a keyboard, a mouse, a touch panel, and a remote controller You may carry out as related information 4411 is changed to the following related information page or a front related information page.
[0164] Moreover, although only two carbon buttons which perform a change to the page before and behind the "page [degree]" carbon button 4412 and the "last page" carbon button 4413 as a selection means of a page are used on Screen 4410 of drawing 39 , the carbon button which moves to the page of arbitration may be added.
[0165] Moreover, on Screen 4410 of drawing 39 , although only the carbon button on a screen is used as a selection means of a page, if the contraction image of a page is chosen with an input device, for example and a page can be chosen using the input from the input device of changing a page, any approach may be used.
[0166] For IC chip, besides the related information of old explanation In addition, for example, the short text explaining the outline of related information etc., By reading and outputting headline information, before it adds the headline information showing a "header" with data size smaller than related information and an information output unit reads related information from IC chip Since the outline of

related information can be known now, without reading related information, an information addressee comes to be able to do choice of related information still more conveniently.
[0167] An example of the contents of the IC chip which recorded the related information and headline information on space written information on drawing 40 is shown.
[0168] The related information data 4420 in IC chip consist of a body 4423 of electronic data of related information, and headline information 4421 on related information. Electronic data 4423 is the related information which combined two or more media containing the layout information 4424, alphabetic data 4425, and other data in this example including all of electronic data, page data, etc. which have so far been explained. The headline information 4421 is the information showing the "header" which is the outline of the contents of the body 4423 of electronic data, and is characterized by data size being smaller than the body 4423 of electronic data. In this example, it is a character string explaining the body of electronic data of "explanation of the habitat of a bird."
[0169] The flow of the process of the related information use which included headline information in drawing 41 is shown. The process shown by the flow of drawing 41 includes the flow of the process of use of the related information 4420 explained so far. Hereafter, the process in which the information on the paper containing IC chip of this example is used is explained using the flow of drawing 41 .
[0170] At step 4700, the information output unit 4142 reads the headline information 4421 from IC chip using the IC reader 4140.
[0171] At step 4710, the information output unit 4142 outputs the headline information 4421. The process of an output is the same as the process of related information use in which it has so far explained.
[0172] At step 4715, it distinguishes whether the IC reader 4140 separated from IC chip, when it separates, a flow is ended, and when that is not right, it progresses to step 4720.
[0173] At step 4720, it distinguishes [whether output initiation of the body 4423 of related information data is chosen, and], when the information addressee 4143 who referred to the contents of the headline information 4421 chooses an output, he progresses to step 4730 as it is, and he returns to step 4715. The means of selection of the output of the body 4423 of related information data is the carbon button 4161 equipped with a carbon button of the IC reader 4160.
[0174] At step 4730, the information output unit 4142 reads the body 4423 of electronic data of related information from IC chip using the IC reader 4140.
[0175] At step 4740, the information output unit 4142 outputs the body 4423 of electronic data of related information. The process of an output is the same as the process of related information use in which it has so far explained.
[0176] At step 4750, the output of related information can be completed and the information addressee 4143 can recognize the contents of related information.
[0177] According to the above process, the information addressee 4143 can choose now the related information which outputs to reference the headline information outputted before the information output unit 4142 outputs related information.
[0178] If the contents 4420 of the IC chip shown by drawing 40 are made into an example and the information addressee 4143 will bring the IC reader 4160 close to IC chip, the IC reader 4160 will read the headline information 4421 from IC, and will transmit to the information output unit 4142 (step 4700). The information output unit 4142 outputs the character string 4422 "explanation of the habitat of a bird" which is the contents of the headline information 4421 (step 4710). If a carbon button 4161 is pushed, without the information addressee 4143 separating the IC reader 4160 from IC chip (step 4715; No) (step 4720; Yes), the IC reader 4160 will read the body 4423 of electronic data from IC, and will transmit to the information output unit 4142 (step 4730). The information output unit 4142 outputs the alphabetic data 4425 which is the contents of the body 4423 of electronic data according to the layout information 4424 (step 4740). The information addressee 4143 recognizes the contents of the body 4423 of electronic data (step 4750).
[0179] According to the above process, the information addressee 4143 can choose now the related information 4423 which outputs to reference the headline information 4421 outputted before the

information output unit 4142 outputs related information 4423.
[0180] In addition, although the IC reader 4140 had read separately the body 4423 of electronic data of the headline information 4421 and related information at step 4700 and step 4730, respectively, you may make it read both at once in explanation of the above-mentioned flow. In this case, what is necessary is just to unify step 4730 to step 4700 and to read the body 4423 of electronic data of the headline information 4421 and related information at once.
[0181] In addition, the above-mentioned process can also be used together with the process which selects related information using the carbon button which the IC reader 4160 shown by drawing 30 equips. That is, the information output unit 4142 outputs the headline information 4421 because the IC reader 4160 reads the headline information 4421 from IC chip and transmits to the information output unit 4142, while it is notified by the information addressee 4143 that there is an IC which recorded related information because the condition of the notice section 4163 of the IC reader 4160 will change if the IC reader 4160 is brought close to IC chip. The information addressee 4143 can select the related information 4423 to output now with reference to the change of state of the notice section, and the output of the headline information 4421. In this case, the step of changing the condition of the notice section 4163 of the IC reader 4160 before "? on which the carbon button was pushed" of step 4720 of the flow of drawing 41 is added.
[0182] In addition, although he is trying to specify output initiation of the body 4423 of electronic data of related information by explanation of the above-mentioned flow by pushing the carbon button which the IC reader 4160 equips On the output screen of the output unit of the information output unit 4142, besides the output of the contents 4422 of the headline information 4411 By for example, the thing for which the carbon button prepares the carbon button of "reading an information body" and "reads an information body" with input devices, such as a keyboard of the information output unit 4142, a mouse, a touch panel, and a remote controller, is chosen The body 4423 of electronic data of related information is read, and you may make it output.
[0183] In addition, although he is trying to specify output initiation of the body 4423 of electronic data of related information by explanation of the above-mentioned flow by pushing the carbon button which the IC reader 4160 equips, you may make it start the output of the body 4423 of electronic data of related information automatically at fixed spacing, such as 30 seconds and 1 minute. It becomes possible to apply processing of the above-mentioned flow also with the information output unit 4142 without neither IC reader which has not equipped the carbon button, nor an input unit. In this case, step 4720 of the flow of drawing 41 turns into the step of progressing to step 4730 after waiting for 30 seconds.
[0184] In addition, although the information output unit 4142 had equipped the output unit which is an output means for the information addressee 4143 to recognize the contents of related information in old explanation, the output unit which outputs related information may be united with the IC reader 4140.
[0185] By equipping the display which displays the loudspeaker and image which ask voice to the IC reader 4140, and a character string, for example, in the example of the paper 4150 containing IC chip of drawing 25 If the IC reader 4141 is brought close to the location where the photograph 4152 of a bird was printed, "the cry of a bird" can come to be heard from the loudspeaker of the IC reader 4140. In the example of the contents of the IC chip of drawing 37 , whenever it pushes the carbon button 4161 of the IC reader 4160, the related information page output of the display of the IC reader 4140 comes to change. In the example of the contents of the IC chip of drawing 40 , if the IC reader 4160 is brought close to IC chip, the headline information 4421 will be outputted to the display of the IC reader 4140, and if a carbon button 4161 is pushed, a related information body will come to be outputted.
[0186] In this case, although the information output unit 4142 is omissible since related information can be outputted only by the IC reader 4140, you may use together. For example, although voice data is outputted by the IC reader 4140, other media data output the headline information on related information outputted with the information output unit 4142 by the IC reader 4140, and the body of related information is used like outputting with the information output unit 4142 etc.
[0187] The 5th example of [the 5th example] is an example of the approach of creating a map using the paper containing IC chip, and simplifying acquisition and use of related information, such as a facility, a

store, etc. of a publication, and positional information on a map.
[0188] An example of the paper containing IC chip of this example is shown in drawing 42 .
[0189] The paper 5000 containing IC chip shown by drawing 42 is a paper containing IC chip which can be created using the procedure of IC paper creation process shown by drawing 26 . The paper 5000 containing IC chip is a map, and the fundamental element (visible information) which constitutes a map called the notation showing stores and firms, such as a segment which shows a road, the notation 5001 showing the location of "A shops", and the notation 5003 showing the location of "B company", is indicated on space. Furthermore, on the paper 5000 containing IC chip, two or more IC chips (IC5002, IC5004) are embedded. IC5002 is embedded in the location where the notation 5001 which is IC chip which recorded the related information and positional information of "A shops", and is the space written information that it corresponds was printed. Similarly, IC5004 is IC chip which recorded the related information and positional information of "B company", and is embedded in the location where the notation 5003 was printed.
[0190] An example of the contents of the IC chip which recorded the related information and positional information of the map written notation 5001 on drawing 43 is shown.
[0191] The data 5010 in IC chip consist of electronic data 5011 of the related information of the map written notation 5001, and positional information 5014. Electronic data 5011 is the related information which combined two or more media containing the layout information 5012, alphabetic data 5013, and other data in this example including all of electronic data, page data, etc. which have so far been explained. Positional information 5014 is information which directs the location of the map written notation 5001, and is the LAT information 5015 and the LONG information 5016 in this example.
[0192] The flow of the process of the use of the related information of a map written notation and positional information to drawing 44 is shown. Although the process shown by the flow of drawing 44 is realizable using the equipment configuration of drawing 34 , or its deformation In this example, the information output unit 4142 of drawing 34 Other than the output of the related information recorded on the IC chip 3, the positional information of the IC chip 3, the information from external storage 4144 like a CD-ROM drive, etc. are used. It becomes a thing like the navigation system which is equipment which has the function which shows the optimal path of the section by specifying the location of the function which newly generates and outputs information, for example, an origin, and the destination. Moreover, the process shown by the flow of drawing 44 includes the flow of the process of use of the related information explained so far.
[0193] Hereafter, the process in which the information on the paper containing IC chip of this example is used is explained using the flow of drawing 44 .
[0194] At step 5100, the information output unit 4142 reads the related information of a map written notation from IC chip using the IC reader 4140.
[0195] At step 5110, the information output unit 4142 outputs related information. The process of an output is the same as the process of related information use in which it has so far explained. Consequently, at step 5120, the information addressee 4143 can recognize the contents of related information.
[0196] At step 5130, the information output unit 4142 reads the positional information of a map written notation from IC chip using the IC reader 4140.
[0197] At step 5140, the information output unit 4142 uses the read positional information as an input for new information generation. In the case of a navigation system, it uses as a coordinate of an origin or the destination.
[0198] According to the above process, the information addressee 4143 can acquire and use now the related information and positional information of a publication on a map, such as a facility and a store.
[0199] If the IC reader 4140 is brought close to the location where the notation 5001 with which the information addressee 4143 shows "A shops" of a publication in a map 5000 was printed when the contents 5010 of the IC chip shown by drawing 43 were made into the example, the IC reader 4140 will read the related information 5011 of "A shops" from IC5002 currently embedded in near, and will transmit to the information output unit 4142 (step 5100). The information output unit 4142 outputs the

alphabetic data 5013 which is the contents of related information 5011 according to the layout information 5012 (step 5110). The information addressee 4143 recognizes the contents of related information 5011 (step 5120). Furthermore, the IC reader 4140 reads the positional information 5014 of "A shops", and transmits to the information output unit 4142 (step 5130). The information output unit 4142 uses the contents (LONG "east longitude 139-degree 46 minutes", and information 5015, LAT information 5016 "north latitude 35-degree 41 minutes") of the read positional information 5014 as positional information of "A shops." In the case of a navigation system, it uses as a coordinate of an origin or the destination (step 5140). .

[0200] According to the above process, the information addressee 4143 can acquire and use now the related information 5011 and positional information 5014 of "A shop" 5001 given in a map 5000.

[0201] In addition, although the IC reader 4140 had read related information 5011 and positional information 5014 separately at step 5100 and step 5130, respectively, you may make it read both at once in explanation of the above-mentioned flow. In this case, what is necessary is just to unify step 5130 to step 5100 and to read related information 5011 and positional information 5014 at once. Moreover, also when reading separately, reverse is sufficient as the read-out sequence of related information and positional information. In this case, it becomes the flow located in a line with step 5130, step 5140, step 5100, step 5110, and step 5120.

[0202] In addition, although related information 5011 and positional information 5014 were recorded on IC chip in explanation of the above-mentioned flow, only positional information is. In this case, in the information output unit 4142, the output unit for the output of related information 5011 becomes unnecessary, and only informational creation using positional information 5014 is performed.

[0203] In addition, although explanation of the above-mentioned flow shows the example which embedded IC which recorded related information and positional information on the location of a notation given in a map, even if the paper containing IC chip is not a map, the process of the above-mentioned flow is applicable. That is, also in the case of a map, the whole space may not be a map and the positional information of a facility may be contained as related information of the photograph of the facility instead of a map.

[0204] In addition, although LAT LONG was used as positional information in explanation of the above-mentioned flow, as long as the information output unit using positional information is the format that a location can be pinpointed, what kind of thing may be used.

[0205] The 6th example of [the 6th example] is an example of the approach of creating a television race card using the paper containing IC chip, and simplifying reference of the related information of the program of a publication, and a television channel change and video image transcription reservation to a race card.

[0206] An example of the paper containing IC chip of this example is shown in drawing 45 .

[0207] The paper 6000 containing IC chip shown by drawing 45 is a paper containing IC chip which can be created using the procedure of IC paper creation process shown by drawing 26 . The paper 6000 containing IC chip is the television race card having shown the televising schedule of a TV program, and visible information, such as a title of televising programs, such as a program 6001 "morning news" and a program 6003 "a specially selected dish", is indicated for every television channel on space. Furthermore, on the paper 6000 containing IC chip, two or more IC chips (IC6002, IC6004) are embedded. IC6002 is embedded in the location where the program 6001 which are the related information of "morning news" and the space written information that are IC chip which recorded program televising information, such as program televising start time and end time, and it corresponds was printed. Similarly, IC5004 is IC chip which recorded the related information and program televising information on "a specially selected dish", and is embedded in the location where the program 6003 was printed.

[0208] An example of the contents of the IC chip which recorded the related information and positional information of a program 6001 of a publication on drawing 46 at the race card 6000 is shown.

[0209] The data 6010 in IC chip are constituted from the electronic data 6011 and the program televising information 6014 of related information on a program 6001 of a publication by the race card 6000.

Electronic data 6011 is the related information which combined two or more media containing the layout information 6012, alphabetic data 6013, and other data in this example including all of electronic data, page data, etc. which have so far been explained. The program televising information 60144 is information which directs the televising schedule of a program 6001, and is the channel 6015 of a program, start time 6016, and end time 6016 in this example.

[0210] The flow of the process of timer reservation of the television channel change or television, and the video image transcription by reference of the related information of a program given in a race card and use of program televising information is shown in drawing 47 .

[0211] Although the process shown by the flow of drawing 47 is realizable using the equipment configuration of drawing 34 , or its deformation, in this example, the information output unit 4142 of drawing 451 becomes a thing like the television receiver which is equipment equipped with the tuner for receiving the TV program other than the output of the related information recorded on the IC chip 3, or a videocassette recorder. Moreover, the process shown by the flow of drawing 44 includes the flow of the process of use of the related information explained so far.

[0212] Hereafter, the process in which the information on the paper containing IC chip of this example is used is explained using the flow of drawing 47 .

[0213] At step 6100, the information output unit 4142 reads the related information of a map written notation from IC chip using the IC reader 4140.

[0214] At step 6110, the information output unit 4142 outputs related information. The process of an output is the same as the process of related information use in which it has so far explained. Consequently, at step 6120, the information addressee 4143 can recognize the contents of related information.

[0215] At step 6130, the information output unit 4142 reads the televising information on a program given in a race card from IC chip using the IC reader 4140.

[0216] At step 6140, the information output unit 4142 is changed into the condition that a program is receivable, with reference to the read televising information. For example, the channel of a tuner is changed to the channel of a program, if it is a program before televising, in the case of the program under televising, timer reservation which changes a channel to the time of day automatically will be set up, or it will set up video image transcription reservation which starts an image transcription.

[0217] According to the above process, the information addressee 4143 can perform timer reservation of the television channel change or television, and the video image transcription by reference of the related information of a program given in a race card, and use of program televising information to simplification.

[0218] If the IC reader 4140 is brought close to the location where the program 6001 with the information addressee 4143 given in a race card 6000 "morning news" was printed when the contents 6010 of the IC chip shown by drawing 46 were made into the example, the IC reader 4140 will read the related information 6011 of "morning news" from IC6002 currently embedded in near, and will transmit to the information output unit 4142 (step 6100). The information output unit 4142 outputs the alphabetic data 6013 which is the contents of related information 6011 according to the layout information 6012 (step 6110). The information addressee 4143 recognizes the contents of related information 6011 (step 6120). Furthermore, the IC reader 4140 reads the program televising information 6014 on "morning news", and transmits to the information output unit 4142 (step 6130). the contents (a channel 6015 "1" --) of the program televising information 6014 which read the information output unit 4142 With reference to "6:0" and start time 6016, and end time 6017 "6:55", supposing current time of day is televising time amount (from 6:00 to for [6:00] 55 minutes), will change the channel of a television tuner to "1", and if that is not right Timer reservation is set up so that it may change to a channel "1" at 6:00. When the information output unit 4142 is a videocassette recorder, image transcription reservation is set up.

[0219] According to the above process, the information addressee 4143 can perform easily timer reservation of the television channel change or television, and the video image transcription by reference of the related information 6011 of the program 6001 of a publication, and use of the program televising

information 6014 to a race card 6000.
[0220] In addition, although the IC reader 4140 had read separately related information 6011 and the program televising information 6014 at step 6100 and step 6130, respectively, you may make it read both at once in explanation of the above-mentioned flow. In this case, what is necessary is just to unify step 6130 to step 6100 and to read related information 6011 and positional information 6014 at once. Moreover, also when reading separately, reverse is sufficient as the read-out sequence of related information and positional information. In this case, it becomes the flow located in a line with step 6130, step 6140, step 6100, step 6110, and step 6120.
[0221] In addition, although related information 6011 and the program televising information 6014 were recorded on IC chip in explanation of the above-mentioned flow, it is also good to accept it program televising information 6014. In this case, in the information output unit 4142, the output unit for the output of related information 6011 becomes unnecessary, and only control of the tuner using the program televising information 6014 and a videocassette recorder is performed.
[0222] In addition, although the example which embedded IC which recorded related information 6011 and the program televising information 6014 is shown in the race card 6000 by explanation of the above-mentioned flow, even if the paper containing IC chip is not a race card, the process of the above-mentioned flow is applicable. That is, what indicated the program itself like the program introduction page of a television informational magazine may be used.
[0223] In addition, although a channel 6015, start time 6016, and end time 6017 were used as program televising information 6014 in explanation of the above-mentioned flow, as long as the channel, the televising start time, end time, or televising time amount of a program is the format that a location can be pinpointed, what kind of thing may be used. It is for example, like the G code which encoded the channel well used for image transcription reservation of a videocassette recorder, televising start time, and end time.
[0224]
[Effect of the Invention] As mentioned above, the following effectiveness can be acquired by performing signal transduction using the paper which was united with an electronic storage like the paper containing IC chip.
[0225] Informational forgery, a postscript, and deletion become comparatively difficult by changing a gestalt and recording the information on the same contents as the information printed to a paper part on IC part the 1st.
[0226] The information on the same contents as the information printed to a paper part to the 2nd is recorded on IC part, and the information transmitted to a vision healthy person can be easily transmitted also to a visually impaired person by enabling it to output with gestalten, such as voice and Braille points.
[0227] If the contents of record to IC part are read and reproduced [3rd] by recording the information on the same contents as the information printed to a paper part on IC part to reproduce information, since it will become unnecessary to copy using an optical copying machine, the problem of degradation is lost.
[0228] Since what is necessary is 4th to read the contents of record from IC part, and just to process, when computer-processing information, recognition by special equipments, such as OCR, is unnecessary.
[0229] Even when the tooth space which indicates [5th] information is limited, comparatively much information can be recorded on IC part, and information other than a document still like voice and an image can also be recorded.
[0230] If information required for the 6th is recorded only on IC part, without printing into a paper part, information can prevent touching many and unspecified men's eyes.
[0231] The activity to find out becomes easy by retrieving the information currently recorded on it by IC part to find out a desired thing to the 7th from a lot of information by computer processing.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The block diagram showing the equipment configuration for carrying out this invention.
[Drawing 2] The flow Fig. showing the fundamental flow of the approach of carrying out this invention.
[Drawing 3] The block diagram showing the example of an equipment configuration for creating a handbill in the 1st example.
[Drawing 4] The flow Fig. having shown the process which creates a handbill in the 1st example.
[Drawing 5] The block diagram showing the example of an equipment configuration for recognizing the contents of the handbill in the 1st example.
[Drawing 6] The flow Fig. having shown the process in which the contents of the handbill were recognized, in the 1st example.
[Drawing 7] The flow Fig. having shown the process which creates a handbill in the modification 1 of the 1st example.
[Drawing 8] The flow Fig. having shown the process in which the contents of the handbill were recognized, in the modification 1 of the 1st example.
[Drawing 9] The flow Fig. having shown the process which creates a handbill in the modification 2 of the 1st example.
[Drawing 10] The flow Fig. having shown the process in which the contents of the handbill were recognized, in the modification 2 of the 1st example.
[Drawing 11] The flow Fig. having shown the process which creates a product catalog in the 2nd example.
[Drawing 12] The image Fig. having shown an example of the product catalog created in the 2nd example.
[Drawing 13] Drawing showing an example of the bill of material about the product parameter information indicated in a product catalog.
[Drawing 14] Drawing showing an example which carried out the data description of the specification about product parameter information in the XML format.
[Drawing 15] The flow Fig. having shown the process in which a product catalog was collected and used in the 2nd example.
[Drawing 16] The block diagram showing the example of an equipment configuration for collecting and using a product catalog in the 2nd example.
[Drawing 17] Drawing showing the example of the comparison result which analyzed and displayed the data of the specification about product parameter information in the 2nd example.
[Drawing 18] The block diagram showing the example of an equipment configuration for drawing up a distributivity document in the 3rd example.
[Drawing 19] The flow Fig. having shown the process which draws up a distributivity document in the 3rd example.
[Drawing 20] The flow Fig. having shown the detail of character code train input process in the 3rd example.

[Drawing 21] Drawing showing the example of the mapping table used in the 3rd example in case reference data are read.
[Drawing 22] Drawing which expresses an example of a character code input screen in the 3rd example.
[Drawing 23] Drawing showing an example of the distributivity document drawn up in the 3rd example.

[Drawing 24] The block diagram having shown the example of an equipment configuration used in the 4th example when using the related information of space written information.
[Drawing 25] The image Fig. having shown an example of the paper containing IC chip which recorded the related information of space written information in the 4th example.
[Drawing 26] The flow Fig. having shown the process which creates the paper containing IC chip which recorded the related information of space written information in the 4th example.
[Drawing 27] The flow Fig. having shown the process in which the contents of the paper containing IC chip which recorded the related information of space written information were recognized in the 4th example.
[Drawing 28] The image Fig. having shown an example of IC reader equipped with a notice means to notify that the data acquisition from a carbon button and IC chip which is an input means is possible, in the 4th example.
[Drawing 29] The block diagram having shown the example of an equipment configuration of IC reader equipped with a notice means to notify that the data acquisition from a carbon button and IC chip which is an input means is possible, in the 4th example.
[Drawing 30] The flow Fig. showing the procedure of IC reader equipped with a notice means to notify that the data acquisition from a carbon button and IC chip which is an input means is possible, in the 4th example.
[Drawing 31] The image Fig. having shown an example of the output screen of the related information which consisted of two or more media data in the 4th example.
[Drawing 32] Drawing having shown an example of the contents of the IC chip which recorded the related information of space written information which consisted of two or more electronic data in the 4th example.
[Drawing 33] The flow Fig. which consisted of two or more electronic data in the 4th example and in which having shown the process in which the contents of the paper containing IC chip which recorded the related information of space written information were recognized.
[Drawing 34] The block diagram having shown the example of an equipment configuration used when using the related information of the space written information which includes the external information which is not recorded on IC chip in the 4th example.
[Drawing 35] Drawing having shown an example of the contents of the IC chip which recorded the related information of space written information which includes the external information which is not recorded on IC chip in the 4th example.
[Drawing 36] The flow Fig. having shown the process in which the contents of the paper containing IC chip which recorded the related information of space written information which include the external information which is not recorded on IC chip in the 4th example were recognized.
[Drawing 37] Drawing having shown an example of the contents of the IC chip which recorded the related information of space written information which consisted of two or more related information in the 4th example.
[Drawing 38] The flow Fig. which consisted of two or more related information in the 4th example and in which having shown the process in which the contents of the paper containing IC chip which recorded the related information of space written information were recognized.
[Drawing 39] The image Fig. having shown an example of the output screen of the information output unit which includes a means to choose two or more related information pages, in the 4th example.
[Drawing 40] Drawing having shown an example of the related information of space written information, and the contents of the IC chip which recorded the headline information in the 4th example.

[Drawing 41] The flow Fig. which included headline information in the 4th example and in which having shown the process in which the contents of the paper containing IC chip which recorded the related information of space written information were recognized.
[Drawing 42] The image Fig. showing an example of the map which recorded the related information and positional information given in space about a notation in the 5th example.
[Drawing 43] Drawing having shown an example of the contents of the IC chip which recorded the related information and positional information given in a map about a notation in the 5th example.
[Drawing 44] The flow Fig. having shown recognition of the map which recorded the related information and positional information given in space about a notation in the 5th example, and the process of use of the positional information in an information output unit.
[Drawing 45] The image Fig. showing an example of the race card which recorded the related information and program televising information given in space about a program in the 6th example.
[Drawing 46] Drawing having shown an example of the contents of the IC chip which recorded the related information and program televising information given in a race card about a program in the 6th example.
[Drawing 47] The flow Fig. having shown recognition of the race card which recorded the related information and program televising information given in space about a program in the 6th example, and the process of use of the program televising information in an information output unit.
[Description of Notations]
1 [-- An input unit, 20 / -- A central processing unit, 30 / -- Storage, 40 / -- An output unit, 50 / -- IC reader writer.] -- The paper containing IC chip, 2 -- The paper part of the paper containing IC chip, 3 -- IC part of the paper containing IC chip, 10

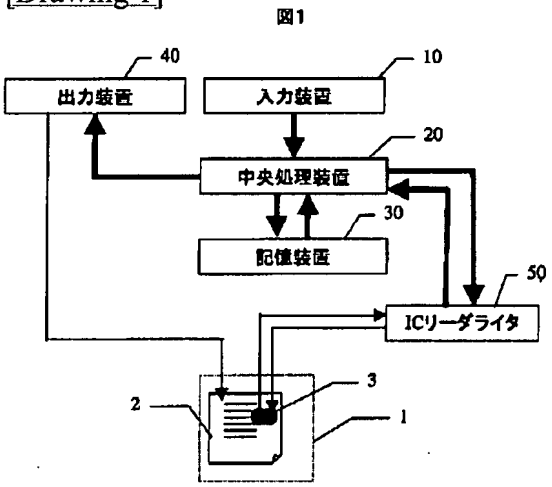
[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]



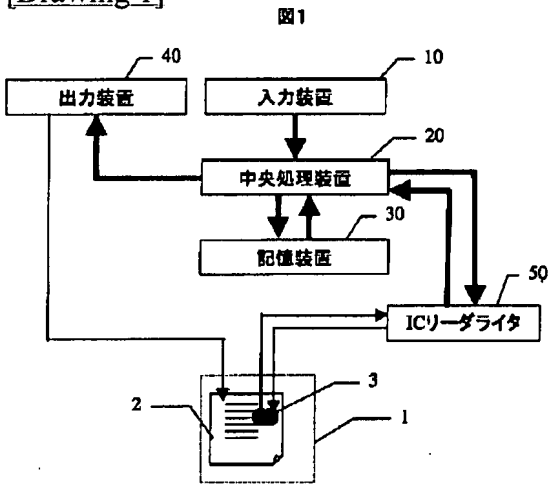
[Drawing 2]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

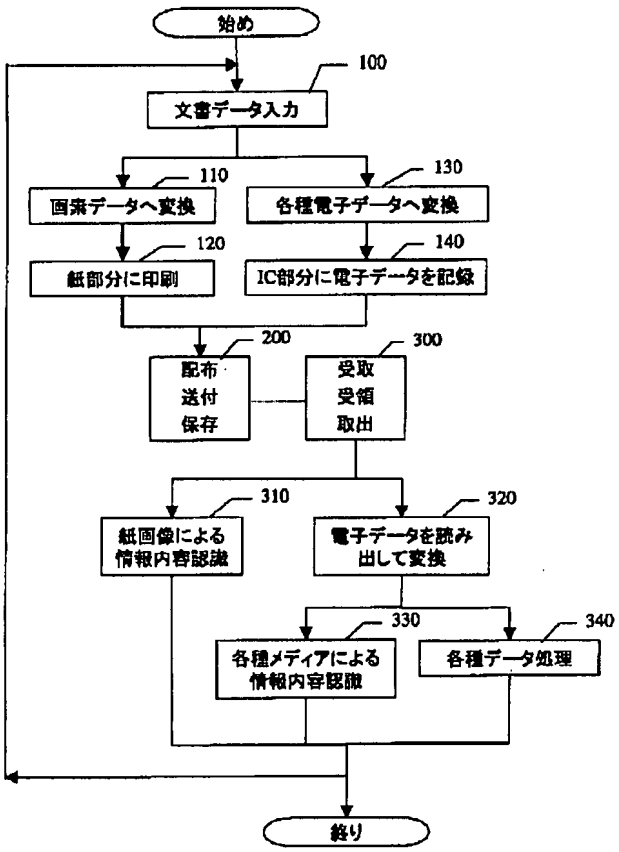
DRAWINGS

[Drawing 1]



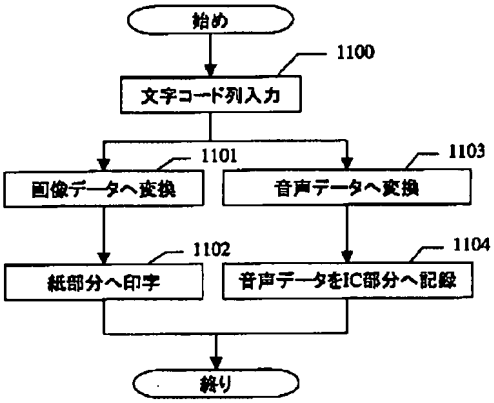
[Drawing 2]

図2



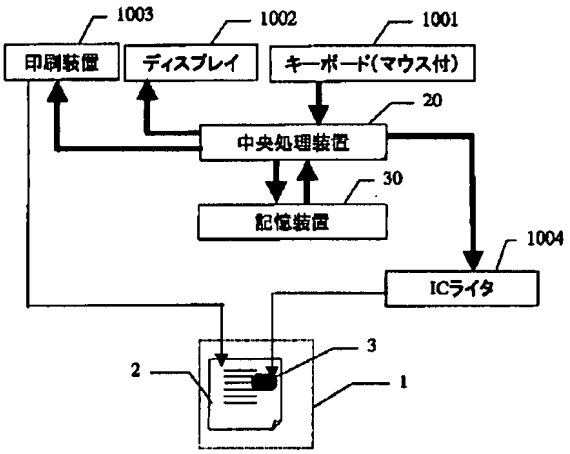
[Drawing 4]

図4



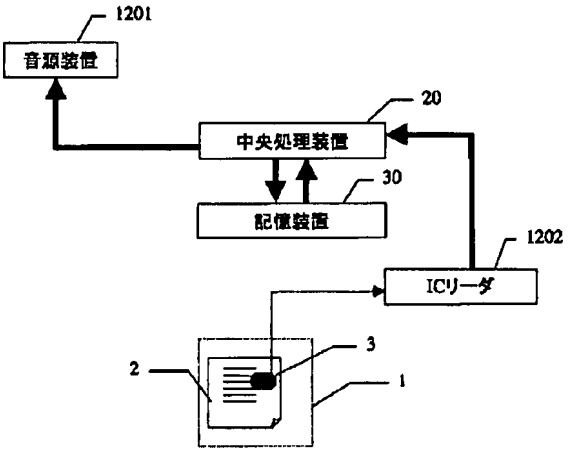
[Drawing 3]

図3



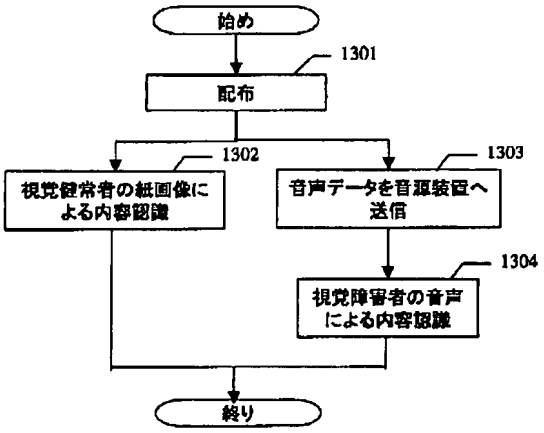
[Drawing 5]

図5



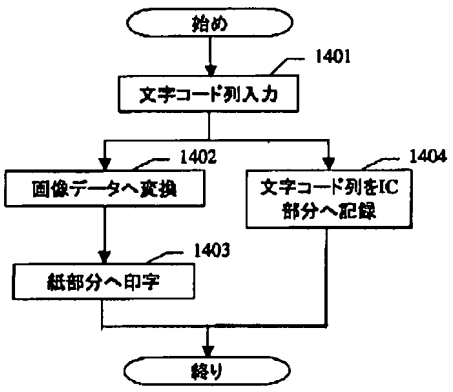
[Drawing 6]

図6



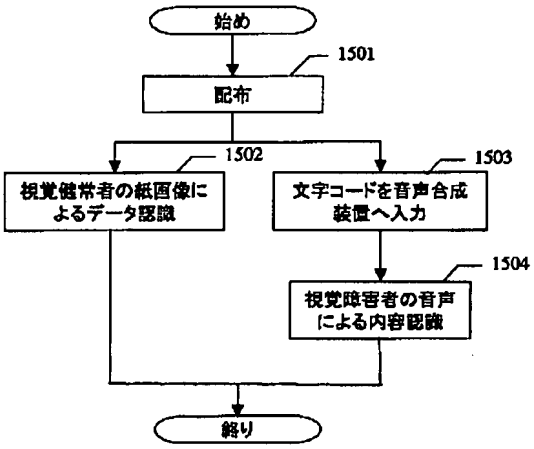
[Drawing 7]

図7



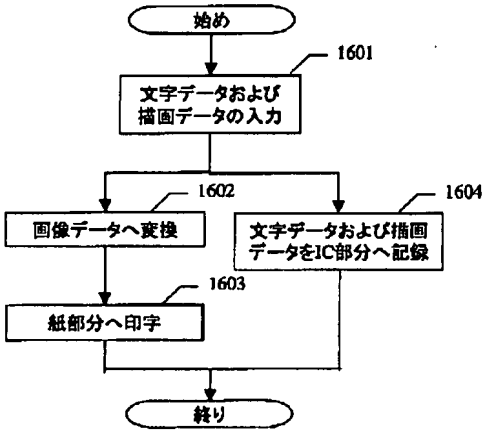
[Drawing 8]

図8



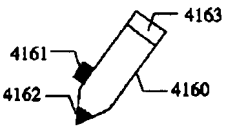
[Drawing 9]

図9



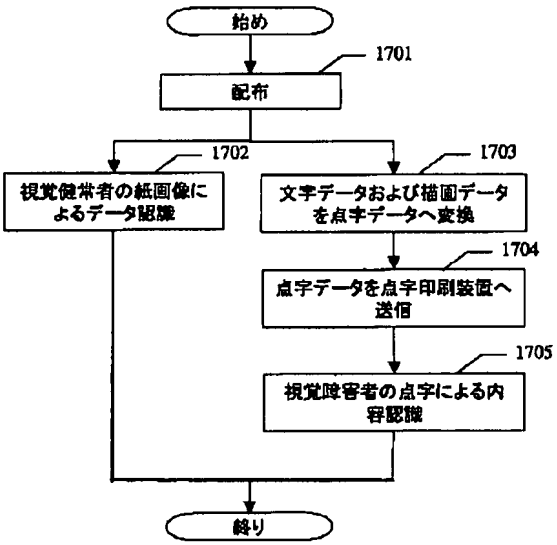
[Drawing 28]

図28



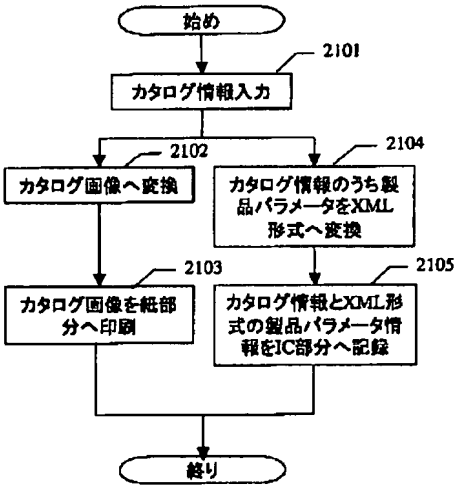
[Drawing 10]

図10



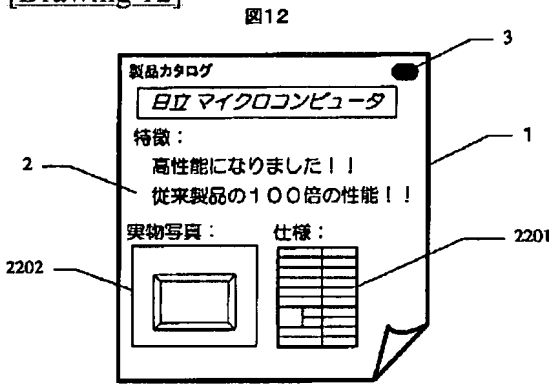
[Drawing 11]

図11



[Drawing 12]

図12



[Drawing 13]

図13

2201

項目		値
メーカ名		日立製作所
製品名		マイクロコンピュータ
型名		HD33221100BP987
電源電圧(V)		3.3
動作周波数(MHz)		200
処理速度	MIPS	360
	FLOPS(G)	1.4
消費電力(W)		1.5
価格(円)		10000

[Drawing 14]

図14

```
<?xml version="1.0" encoding="shift_jis"?>
<製品仕様>
<メーカ名>日立製作所</メーカ名>
<製品名>マイクロコンピュータ</製品名>
<型名>HD33221100BP987</型名>
<電源電圧 単位="V">3.3</電源電圧>
<動作周波数 単位="MHz">200</動作周波数>
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  <MIPS>360</MIPS>
  <FLOPS 単位="G">1.4</FLOPS>
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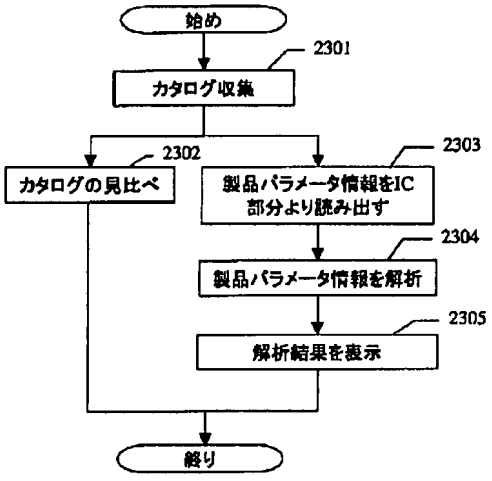
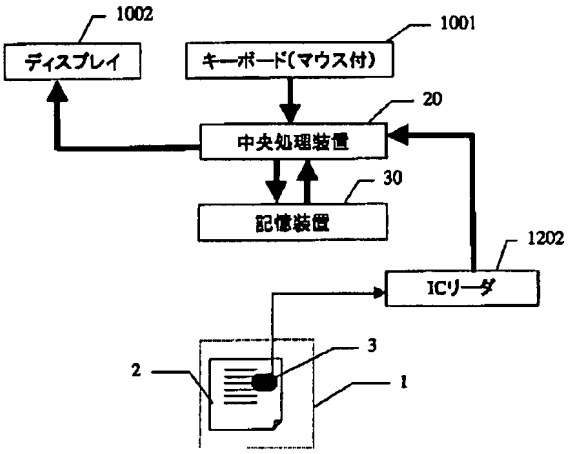
[Drawing 15]

図15



[Drawing 16]

図16



[Drawing 17]

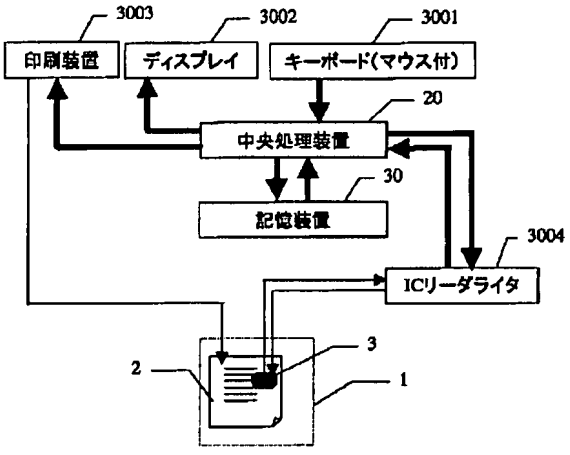
図17

2400

2401 型名	2402 消費電力(W)	2403 価格(円)
HD33221103BP987	1.5	10000
HD33221100BP936	1.3	9000
HD33221125BP933	1.2	8000
HD33221100BP946	1.6	6500
⋮	⋮	⋮

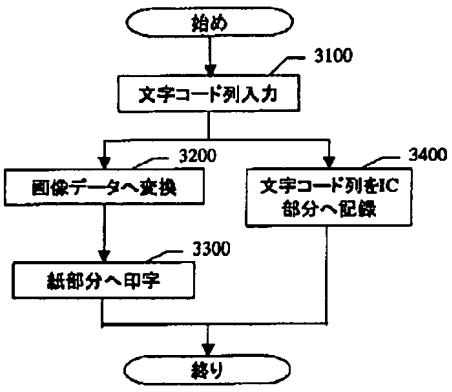
[Drawing 18]

図18



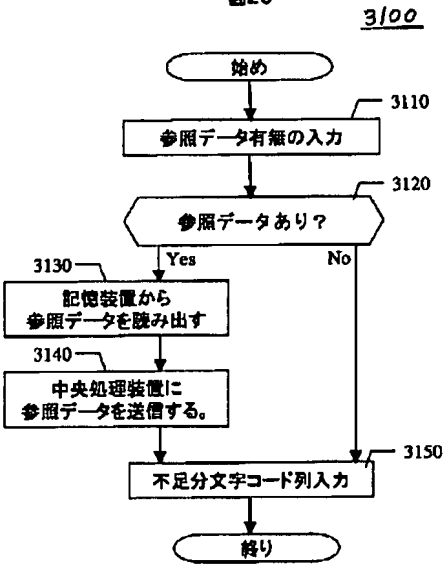
[Drawing 19]

図19



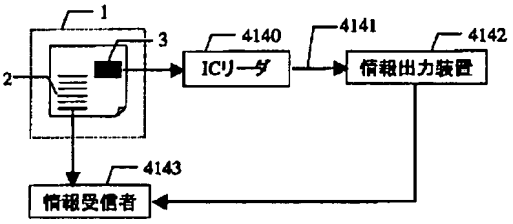
[Drawing 20]

図20



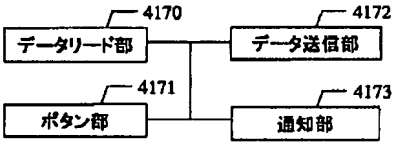
[Drawing 24]

図24



[Drawing 29]

図29

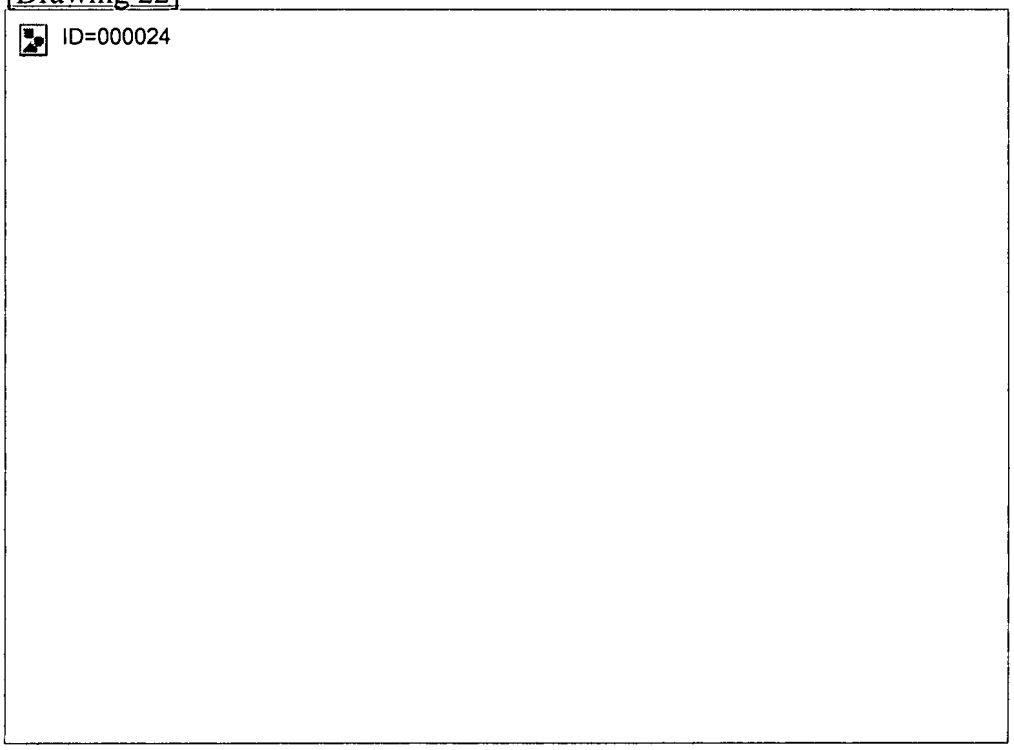


[Drawing 21]

図21

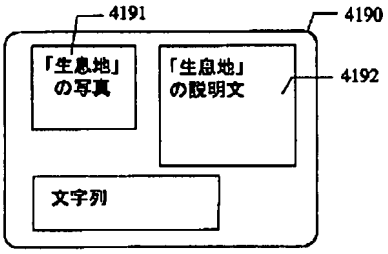
3131 作成文書名	3132 項目名	3133 参照文書名	3134 参照項目名
保険証券申込書	保険会社名称	—	—
	保険会社住所	—	—
	保険会社電話番号	—	—
	被保険者名称	—	—
	被保険者住所	—	—
	インボイス番号	インボイス	インボイス番号
	商品名	インボイス	商品名
	合計金額	インボイス	合計金額
	船名	インボイス	船名
	…	…	…
船腹予約申込書	申込者名称	—	—
	商品名	インボイス	商品名
	船名	—	—
	積地	—	—
	荷揚地	—	—
	…		…

[Drawing 22]



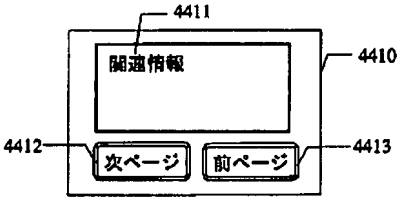
[Drawing 31]

図３１



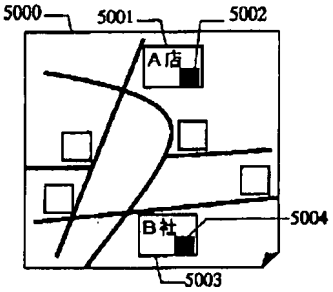
[Drawing 39]

図３９



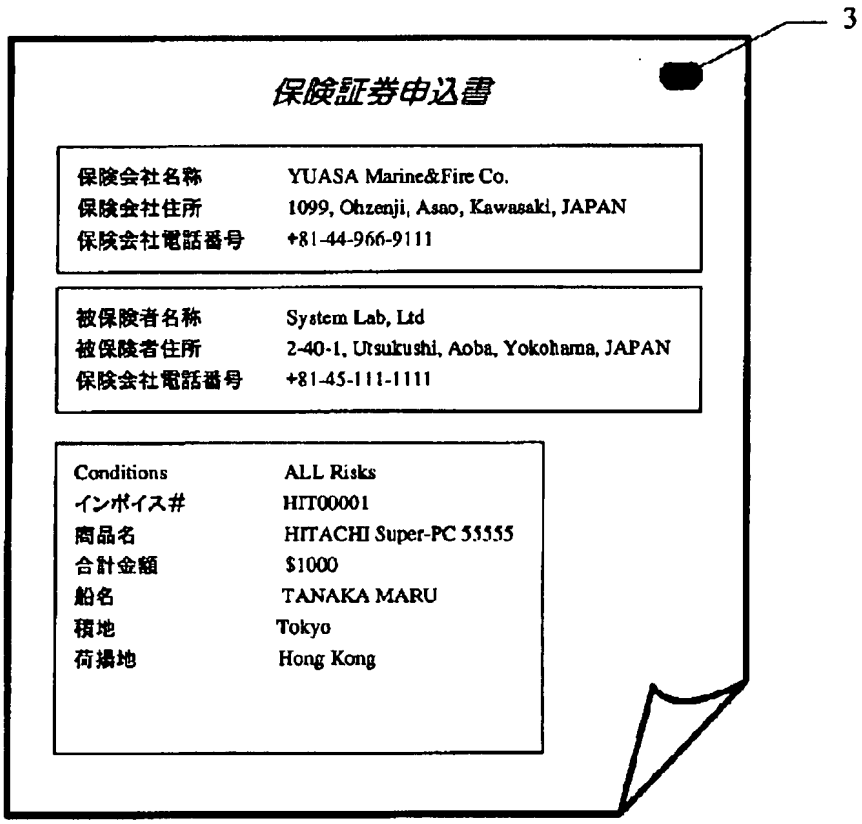
[Drawing 42]

図４２



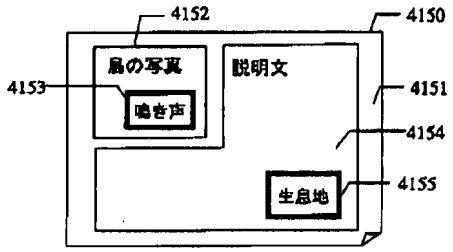
[Drawing 23]

図23



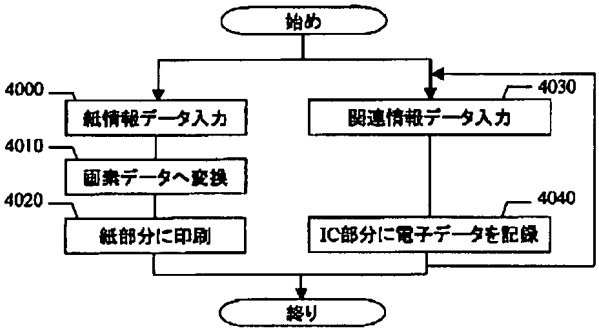
[Drawing 25]

図25



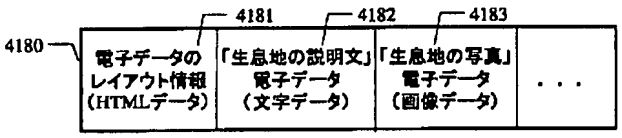
[Drawing 26]

図26



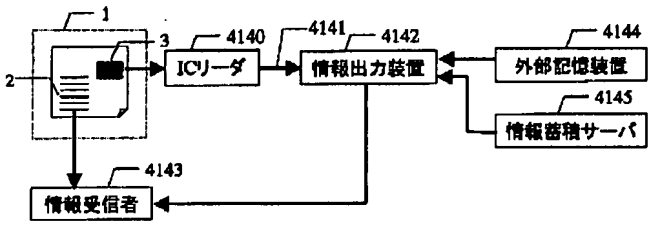
[Drawing 32]

図３２



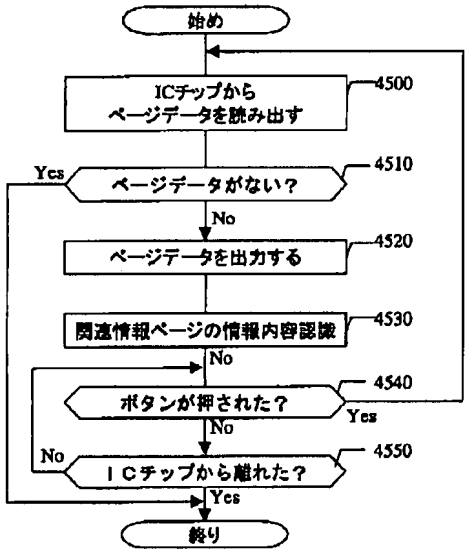
[Drawing 34]

図３４



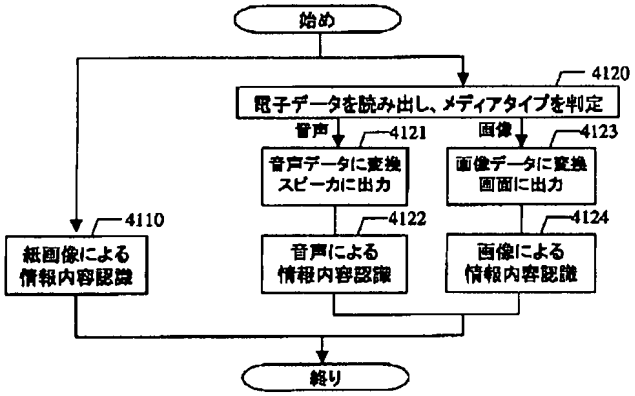
[Drawing 38]

図３８



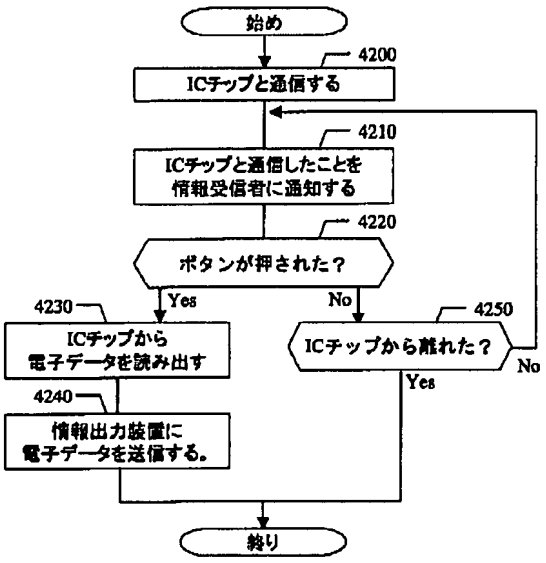
[Drawing 27]

図２７



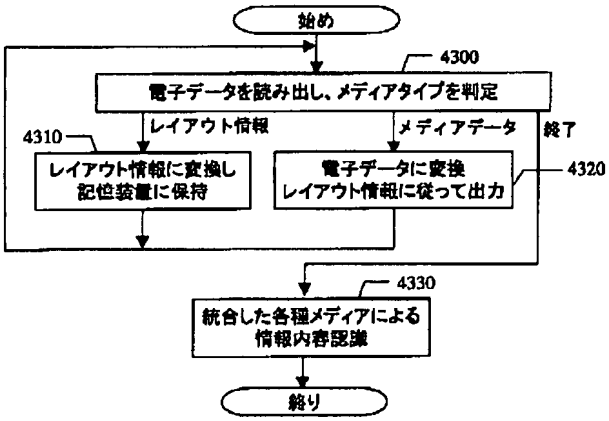
[Drawing 30]

図３０



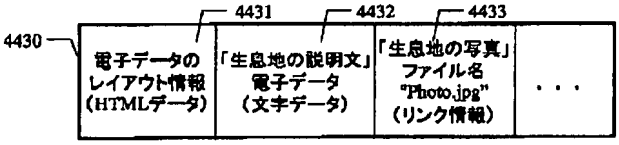
[Drawing 33]

図３３



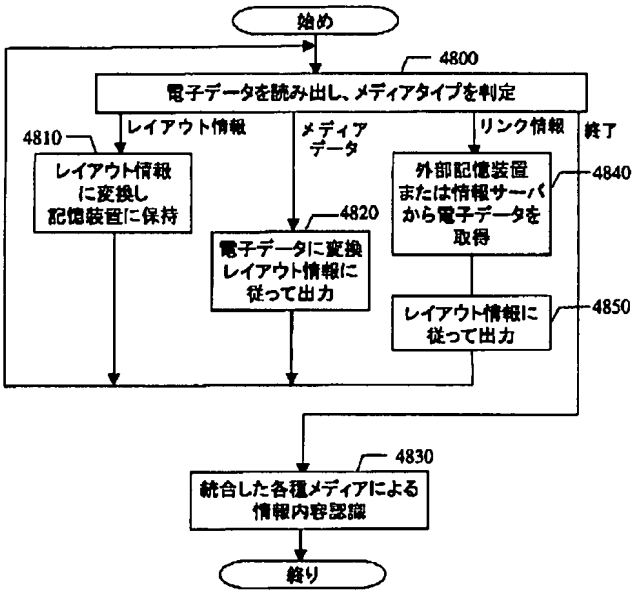
[Drawing 35]

図３５



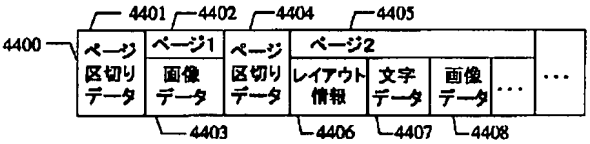
[Drawing 36]

図３６



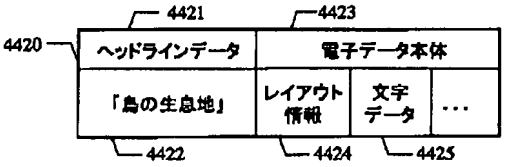
[Drawing 37]

図３７



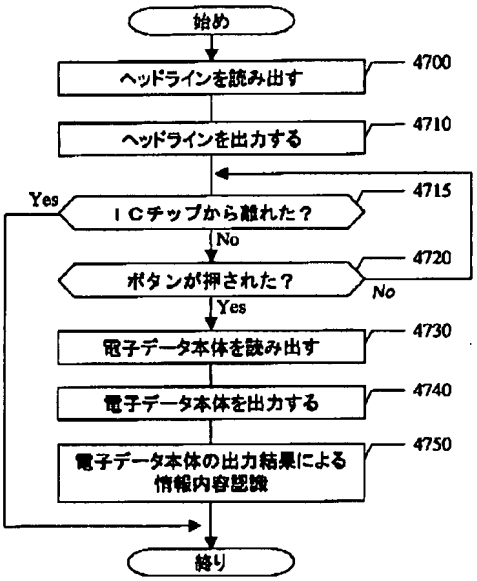
[Drawing 40]

図４０



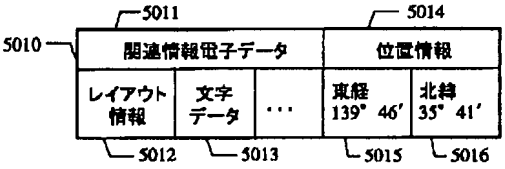
[Drawing 41]

図４１



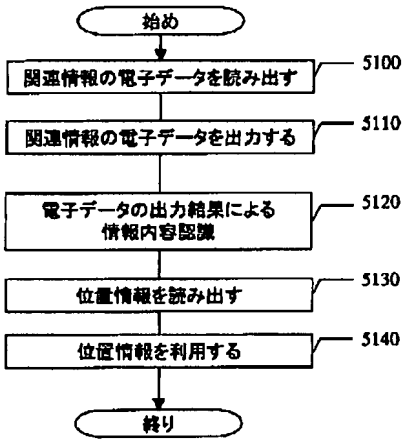
[Drawing 43]

図４３



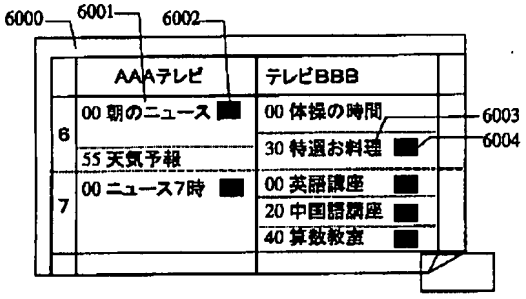
[Drawing 44]

図４４



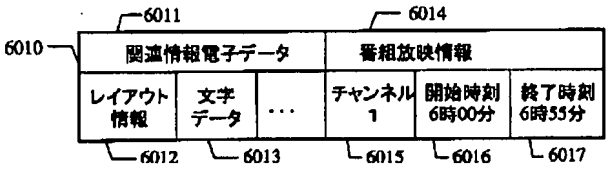
[Drawing 45]

図４５



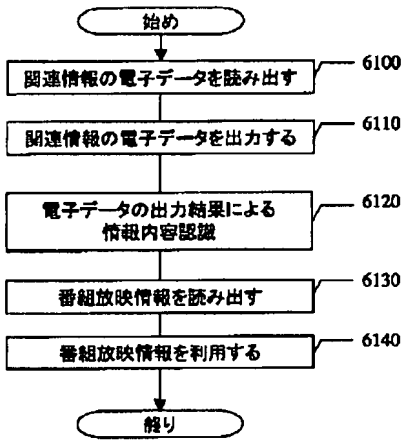
[Drawing 46]

図４６



[Drawing 47]

図４７



[Translation done.]